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GERMAN AGRICULTURE IN THE FOUR-YEAR PLAN . . .

. . . By Loyd V. Steere*

Prior to the World War, German economic policy was based on the principle of low-cost food, feed, and raw materials in order to support a system of industrial exports, coupled with a moderate degree of protection to German agriculture. During this period and for a number of years after the war, Germany was the second leading foreign outlet for United States agricultural exports, consisting chiefly of raw cotton, lard, tobacco, grains, and fruit. The rise of German agricultural protectionism during the post-war period, however, particularly following the decline of prices during the world economic depression, brought about a material decline in the exports of American agricultural products to Germany. With the advent in 1933 of a definite German effort to attain agricultural self-sufficiency, exports of American agricultural products to that country declined to an exceedingly low level.

Since 1933, German agricultural policy has particularly emphasized the goal of national self-sufficiency in foodstuffs. The announcement of the Four-Year Plan for German national economy, together with the widespread publicity dealing with the necessity of building up domestic industry capable of producing by synthetic means the raw materials now imported, has given the impression that the Plan is essentially one devoted to the raw-material question. While additional emphasis will undoubtedly be given to the domestic production of raw materials, it is quite generally overlooked, or at least much underemphasized, that the Four-Year Plan is closely linked with the German food situation. In fact, Germany's need for foreign foods and feeds has been as compelling as the need for raw materials in the formulation of the new plan. The national socialistic regime early set out to make Germany independent of foreign food supplies; and, although great progress has been made in this direction, it is realized now that absolute self-sufficiency cannot be attained. The attack, therefore, has been more forcefully centered on the question of domestic production of raw materials for German industry.

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*Agricultural Attaché, Berlin, Germany.

Germany has made notable progress in the production of synthetic and substitute products, particularly in the raw-material field, and this endeavor seems to offer the greatest hope for the future. So far as foods and feeds are concerned, some further progress can probably be made in land reclamation. The continued improvement in crop yields and farming practices likewise is calculated to bring about some additional increase in food production. Self-sufficiency also is being approached from the angle of consumption. It is planned to bring about changes in dietary habits which would shift consumption from one product to another and thus diminish the necessity of importing those products in which a substantial deficit exists.

Agricultural Policy - 1933-1936

A review of the steps taken since 1933 to regulate German agriculture help to provide a proper perspective of the Four-Year Plan. The first major development in the new agricultural self-sufficiency program was the decision early in 1933 materially to curtail imports, particularly of cereals and those crops that could most readily be produced in Germany. The compulsory utilization of certain domestic products was extended, and production subsidies were set up in some cases.

Later in the same year, all farm and agricultural trade organizations were incorporated into a central-control organization, the Reichsnährstand, or Reich Food Estate. This organization controls each stage of the movement of nearly all German farm products from producer to consumer, as to both price and volume. The aim has been to insure a profitable agriculture while guarding the consumers' interests.

Regulation of imports

The control of agricultural imports was linked with the market-regulation machinery through a number of special Reich Offices (Reichsstellen) with monopoly powers, under the jurisdiction of the Minister of Agriculture, who is simultaneously head of the Reichsnährstand. Beginning in 1934, these offices exercised arbitrary discretion (within the general foreign exchange quotas then granted to importers) as to countries from which imports were permitted to enter Germany. After the introduction of the "New Plan" in September 1934 (permitting imports only when offset by an equivalent value of exports), these offices also were clothed with authority in foreign exchange matters (supervisory offices or Ueberwachungsstellen); and it became their responsibility to decide what farm products, if any, should be imported, in what quantities, and from what countries. This was the machinery which, in the first 2 years of the new self-sufficiency policy, reorganized German agricultural import trade, and which still controls it.

Increase in domestic production

Increased domestic production of farm products has been the major official objective since 1933. That year was one of bountiful, even record, crops, largely planted before the new government came into power. In fact, large crops were general throughout Europe. The superabundance of grain supplies laid the foundation for a marked increase in livestock production in the following season, 1934-35. Since then, Germany has sought to exploit every available resource to increase farm output, and particularly to increase the output of fats and proteins. Farmers have been spurred by good prices, appealed to on grounds of duty and patriotism, and threatened with penalties in the event of non-cooperation. Science has been encouraged as never before to develop new plant varieties, new feeding methods, and new techniques of every kind. The government, itself, also has contributed directly by land reclamation and other activities, to extend the physical resources of the country.

The volume of agricultural production, as might be expected, has responded in some degree. The post-war upward trend has been continued and even accelerated, with current output apparently running about 12 percent higher than 8 years ago. A further rise seems likely, but it will be slow because average yields are already at a very high level. Furthermore, the effects of stimulating scientific progress, and often of other measures, become apparent only gradually. The strenuous efforts of the past 2 years toward reclamation and soil building and, particularly, toward increased production of feedstuffs, will require years to become fully effective.

The increased volume of production has clearly helped to reduce food and feed import requirements. The downward trend of imports in the past 10 years, in fact, became especially marked during the 4 years of the National Socialist regime, though not without an accompanying tightening in the domestic supply situation and a reduction in consumption of certain products.

General effect of the earlier agricultural policy

As a result of several years of favorable weather, domestic agricultural production in Germany increased and the Government was apparently successful in reducing food and feed import requirements. Even the slightly below normal crops harvested in 1936, however, demonstrated that a food shortage could readily develop without substantial imports. Should a particularly bad harvest be experienced or should two subnormal crop years occur in succession, the situation would indeed become serious. Furthermore, it is necessary that foreign trade developments should not interfere with the regular flow of imports of the essential foods and feedstuffs needed to cover the still large deficit.

The total supply of foodstuffs available for consumption today, including domestic production and imports, is barely equal to the supply during 1927 to 1929. Yet the German population has increased by some 3,000,000, or about 5 percent. Imports of foods and feedstuffs have been made largely under clearing agreements or on a barter basis. The conduct of trade in this manner, however, is becoming increasingly difficult as other countries find themselves unable to accept all of the necessary German goods in payment for agricultural products exported to Germany.

The recurrent food shortages of the past 2 years are seen to be the pressure of an increasing population on the available food supply, a pressure intensified by the great decline in German unemployment and threatening to increase under current economic policies. Under these circumstances, increased self-sufficiency has been partially achieved through reduced or curtailed consumption.

It has thus become apparent, despite considerable success in increasing farm production, that earlier ideas on self-sufficiency were too optimistic, that there are serious obstacles to further expansion in farm output, and that fairly large imports of foods and feedstuffs will continue to be needed for an indefinite time to come.

The New Four-Year Plan For Agriculture

The Four-Year Plan, although it places industrial production of raw materials in the forefront of the Government's immediate economic objectives, also contemplates undiminished and even intensified efforts toward expansion of agricultural output in both the foodstuffs and the raw-material sectors. No specific goal has been announced under the plan as far as nutrition is concerned, but a wide variety of intensive measures are being counted upon to increase the output of foods and feedstuffs to beyond the 81 - 82 percent of self-sufficiency which has been achieved in the past 2 or 3 years. The degree of self-sufficiency attained for a number of products is shown on the opposite page.

Recent trends in yields per acre and current vigorous efforts to increase output suggest that production may continue at least to keep pace with the increase in population in the period immediately ahead, but that an average domestic production of 85 percent of total food and feed requirements is close to a maximum level under conditions of normal consumption. Limited land resources, already high yields, and an increasing population set limits beyond which it will be possible to penetrate only with great difficulty and only after some years. The projected measures to increase production and attain greater self-sufficiency under the agriculture section of the Four-Year Plan are discussed in the following pages.

Domestic Production as Percentage of Total Consumption of Specified Foodstuffs in Germany, 1927-1935 a/

Commodity	1927	1928	1929	1930	1931	1932	1933	1934	1935
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Bread grains	72	86	87	90	90	97	105	94	100
Rice	0	0	0	0	0	0	0	0	0
Peas	71	67	64	66	82	84	88	42	56
Beans	35	35	28	36	24	24	24	15	16
Lentils	29	23	21	26	15	20	13	11	4
Potatoes	95	97	98	98	103	101	100	99	100
Sugar	104	96	112	118	126	104	99	99	99
Nuts	36	34	36	37	34	32	21	35	15
Fruit	78	72	83	66	87	72	76	85	85
Tropical fruit	0	0	0	0	0	0	0	0	0
Vegetables	86	79	81	84	86	88	88	88	91
Edible oils	7	5	4	3	2	1	2	6	12
Edible vegetable oils	0	0	0	0	0	0	0	0	0
Margarine	0	1	1	0	1	1	1	14	3
Bacon	97	98	97	96	92	90	93	93	95
Lard	61	65	61	66	67	59	68	80	84
Edible tallow	100	100	100	100	100	100	100	100	100
Butter	73	72	70	72	80	86	88	87	86
Fresh cow milk	100	100	100	100	100	100	100	100	100
Fresh goat milk	100	100	100	100	100	100	100	100	100
Cheese	78	82	81	83	86	88	90	91	92
All meat	90	92	93	95	98	98	98	98	97
Fish	38	40	39	43	47	50	55	57	59
Eggs	64	64	66	68	71	71	80	81	83
Honey	64	59	61	79	72	80	77	83	74

Compiled from records of The German Institue for Business Research.
a/ No allowance is made for the imports of feedstuffs required in the production of livestock and livestock products so that the percentages for these items are obviously too high.

The enhancement of land resources

The development and fullest possible exploitation of idle and only partially utilized land resources is a major project in German efforts to increase farm production. The agricultural authorities calculate that the equivalent of 16,000,000 acres of new land, or more than 20 percent of the present area used for agricultural purposes, could be gained by reclamation, amelioration, amalgamation, etc., if all possibilities were utilized. The practical possibilities, however, are undoubtedly much smaller.

Reclamation and amelioration projects, combined, have added the equivalent of some 618,000 acres to the agricultural area in the past 3-year period, at a cost of 860,000,000 Reichsmarks ($346,000,000 at current rate of exchange). On the other hand, public requirements for the army, highways, etc., are officially stated to have withdrawn "several hundred thousand" acres from agricultural use in the same period, while an additional 297,000 acres have been diverted to the production of industrial fibres and oil seeds, the area of which it is planned to double. There would thus appear to have been a recent net loss in the total agricultural area and a considerable loss in the area devoted to the production of foodstuffs. This assumes added importance when it is considered that the annual population increment in Germany of 400,000 to 500,000 requires the foodstuffs output of some 494,000 acres.

The outlook for land diversion in the next 2 years would seem to promise at least a small further net loss in the area devoted to foodstuffs, even assuming a large decline in public requirements. Thereafter, for a period, reclamation and amelioration might well more than offset land loss through diversion, unless lack of labor or changes in public policy alter the present trend of developments. Generally speaking, however, Germany's possibilities of adding to land resources within present boundaries are very limited, and any reclamation program will encounter, within a few years' time, costs likely to rise rapidly above the already high and in some cases almost prohibitive figures.

For the immediate future, the greatest stress will be laid upon those operations which will bring the earliest results, namely, drainage and the shifting of land hitherto in pasture and hay into field crops. Some 18,500,000 acres of land fall into these two categories, on which it is calculated that a gain of 30 percent, or the equivalent of about 5,560,000 acres, is potentially possible. Substantial and prompt results are also expected from the elimination of scattered small holdings and their reorganization into larger units enabling more efficient use of machinery. Many of these measures, however, are dependent upon the availability of labor, of which a definite scarcity now exists, particularly of rural labor.

Further increase in average yields

The German authorities, notwithstanding the already high average yields per acre obtained in Germany, profess optimism about the possibilities of further substantial achievement in this direction. The efforts already being made and those projected for the future include not only intensification for current crops, but considerable shifts as between crops, and many far-reaching changes in farm-management practices. An official statement recently treated these projects under the following heads: Artificial fertilizers, catch-crops, intensified grassland culture, intensified fruit and vegetable culture, increase in the area of high-yielding crops.

It appears to be the aim, with respect to artificial fertilizers, to push their use well up to the technical limits. It is especially the aim to expand the use of such fertilizers among those farmers and peasants who have hitherto made but little or limited use of them, and it is indicated that Government aid will be forthcoming where needed to put through the program in outlying areas such as eastern and southern Germany, and also where poor harvests may hamper farmers. Soil-testing is likewise being pushed on a great scale with a view to maximum use of complete fertilizers. It is interesting to note, in this connection, that the index of artificial fertilizer prices in Germany is currently 66.8 as compared with 84.5 in 1929 and 100 in 1913.

The cultivation of catch-crops has recently come very rapidly to the fore in Germany, particularly since German scientists succeeded in breeding a sweet lupine which is adapted to the light soils of the northern and eastern sections of the country. Catch-crops, accordingly, have been seized upon in the "Battle of Production" as a newly discovered resource, and are officially regarded as destined to go a long way toward eliminating Germany's present dependence upon the outside world for animal feedstuffs, particularly of a protein nature.

The silage capacity of the country has been increased under governmental encouragement, which has included some subsidies, from about 1,050,000 cubic yards in 1932 to some 6,540,000 cubic yards in 1936, and it is planned to expand it to around 14,400,000 cubic yards. The sweet lupine is regarded as so important, furthermore, that the Reich is to subsidize the production and distribution of high-grade seed to hasten the attainment of feed-sufficiency.

A third point of attach in the struggle for higher yields is that of grassland culture - again the feedstuff problem. Plans call not only for increased yields, but for products of higher feeding value through improved harvesting, curing, and storage practices. The aim is succinctly stated in the slogan, "More and, above all, better hay on a smaller acreage!"

Fruits and vegetables, particularly the former, constitute a fourth field of concentration, in which there are undoubtedly great possibilities of increased production over a period of years. It has been officially indicated that consideration is being given, under the Four-Year Plan, to the extension of the present subsidy of some $160,000 annually which has been granted in the past 3 years, for new plantings of deciduous fruit trees.

If carried through, these measures may eventually mean German self-sufficiency in the principal deciduous fruits, except in years of poor crops. In vegetables, the aim is to increase production on a stable acreage, but to eliminate speculative shifts from one year to another, particularly by large farmers, and to stabilize the industry on a basis

which recognizes it as essential for the existence of small farmers. Large farms with an established record as vegetable producers are expected to concentrate on vegetables for canning and those suitable for winter storage.

A fifth and final attack will be to increase the acreage of crops which produce more per given area, even though this will mean upsetting rotations and other established and tested farm-management practices. Government policies and the current unfavorable outlook for adequate feedstuff imports are both working in the direction of increased areas for potatoes and sugar beets at the expense of feed beets and spring feed grains. Of possibly even greater importance is the effort to shift grassland into field crops through drainage, etc., which the German authorities treat as "amelioration" and which has already been mentioned. It is also likely that there will be a considerable expansion in the acreage under corn in view of the development of varieties which will mature in Germany in normal years. Expansion is likewise under way in oilseed and fibre-plant production, at the expense, too, of other crops, but with what the authorities regard as a net economic and social gain, from a national standpoint, under present conditions.

More efficient use of foods and feedstuffs

Great as is the emphasis upon "production" in the agricultural sector of the Four-Year Plan, scarcely less attention is being accorded the possibilities of savings in consumption and utilization. Substantial economies are confidently expected; but most of them are of a potential nature and will be realized only over a longer period of time, or may even be of an illusory or temporary character which will become apparent only through experience. An appraisal of the efforts in this direction, therefore, is necessarily tentative and general at this stage.

Possible economies on the farm naturally center around the livestock feeding problem. Germany has taken an important and potentially far-reaching step in making performance the underlying factor in livestock judging and in setting out definitely to breed up her herds on the basis of efficiency in feed utilization. The Government is understood to be contemplating subsidies to help make better breeding stock more rapidly available to small farmers and peasants. These are obviously important measures, which in time should enable realization of the slogan, "Equal or higher performance on less feed!" but it will be years before they can have any appreciable effect on production.

The general problem of feeding practices is probably one of the most vital now confronting the German agricultural authorities. It is certainly one of the most difficult, for it involves nothing less than a nation-wide effort to get along, in the immediate future, and if possible to achieve equal results, on inferior feedstuffs. Germany is setting out to replace a large volume of high-value imported concentrates, oilcake, barley, etc., with domestically produced feedstuffs, potatoes,

sugar beets, catch crops, and as much of hitherto waste products, as possible - in other words, to replace proteins largely with starch. The silo program, which has been mentioned, and a parallel program to increase the number of potato-storage pits and cooking equipment are a part of these efforts. (Potatoes for feeding are generally cooked before being stored.) A rather recent development related to this problem has been the official indication that the Government is going to curtail and eventually surpress the distilling of alcohol from potatoes, on the ground that is is an inefficient use of a valuable feedstuff. All of these measures constitute such radical breaks with long-established practices that their eventual effects can scarcely be foreseen, but it would seem likely that both successes and failures will be recorded.

There are also numerous smaller fields wherein savings will be attempted, for example the building of additional creameries better to exploit areas where they are now lacking or inadequate in number. Great importance is also attached to improvement in the breeding and increased keeping of goats and rabbits in order to use large quantities of feed that can be utilized only by these animals. Farm laborers, settlers, and the thousands of small suburban gardeners are, it is intimated, to be given encouragement to keep such animals in increased numbers.

Possibilities for economic and generally more efficient use of available foodstuffs by the urban population are likewise regarded as large, and two distinct types of measures or campaigns have been instituted in an attempt to accomplish what is humanly possible. One is known as the "Fight Against Waste" and the second as "Consumption Steering." Under the first, efforts are being made all along the line, from farm to consumer, to eliminate preventable waste through better handling, storage, and refrigeration (the development of the latter is being pushed energetically); and city garbage is now being segregated, as was not the case hitherto, to enable large-scale suburban hog feeding. Reclaimable products of all kinds are, of course, included in this campaign.

The second campaign, "Consumption Steering", is one that aims at shaping consumer demand to conform as readily as possible to available food supplies and prevailing market conditions generally. The importance of this undertaking should not be underestimated, for upon it devolves such difficult problems as keeping the population reasonably satisfied with radically reduced supplies of fats (25-percent reduction from normal aimed at), with more domestic vegetables of the cabbage family in place of the usual good variety of imported products, with increased quantities of fish instead of meat, with marmalade in place of butter, and other problems of this nature, extending even to the simplification of restaurant menus. These activities are not merely the result of the recent and possibly temporary shortage of various foodstuffs; they aim much further - even to the permanent shaping of consumption habits and trends, at least for fats and for other products that Germany must obtain in important quantities from abroad.

Greater utilization of farm labor, power, and machinery

In the first year or two of the National Socialist regime, when unemployment was still at high levels, the mechanization or rationalization in industry and agriculture was held to be an important cause of the lack of work.

Now, after 4 years in which the unemployed have largely been put back to work by one means or another and an acute shortage of rural labor has developed, there is an entirely different attitude. The farm-labor problem, in fact, both currently and for as far ahead as can be seen, is so unpromising, particularly in view of the great program to increase production, that aggressive steps must be taken to aid the farmers.

The Labor Service (Arbeitsdienst), hitherto largely employed on reclamation and amelioration projects but also in harvest work in 1936, is to be supplemented in 1937 by a much expanded women's or, rather, girls' branch, which has hitherto been of minor importance. Girls will be employed, mainly as helpers for farm women, who, presumably, will be released for additional field work. The Four-Year Plan also contemplates steps to improve rural housing conditions for farm laborers to help stem the tendency to drift into industrial employment; and there has also recently been an increase in the share of farm wages paid in cash with a reduction of the payments in kind.

Equally and perhaps even more significant, however, is the official attitude toward "rationalization" or mechanization of farm operations. Now, particularly since stable prices are assured, every sort of labor-saving device is considered desirable from the standpoint of national economic policy, provided it does not mean less intensive production. Mechanization is to be encouraged not only for larger farms but also for the small farms wherever possible, and for the benefit of peasant women as well as men. The Four-Year Plan, it is stated, will undertake to make such reductions in the hitherto high cost of electricity as are necessary to enable the widespread introduction of electric power in the German countryside. Motorized power is also to be given every possible encouragement as a substitute for draft animals, the elimination of which would bring a corresponding and sensible reduction in imported feedstuffs. The bulk of the motor fuel, however, must also be imported.

The storage problem

It has been indicated frequently by high Government officials that the Four-Year Plan will involve the development of a comprehensive storage or reserve program for agricultural products. No details have yet been announced, but the general aims are to carry over surpluses, seasonally and from good to bad years, as far as possible, and to create certain reserves for emergencies. It is understood that some new storage facilities

have already been built and that the expansion of refrigeration space has an important place in the program, which is in the hands of the officials responsible for the Four-Year Plan rather than of any single Ministry. To what extent military considerations underlie these plans is not clear, but they would appear to play some role. It would also seem to be a safe assumption that the plans can hardly be realized or carried forward rapidly under current conditions of scarcity.

Appraisal of Proposals for Selected Commodities

The fats problem

The necessity of importing some 45 percent of the country's total food requirements of animal, vegetable, and marine fats and oils constitutes, in many respects, one of Germany's major economic problems and in the minds of some German leaders is a fundamental weakness. Four years ago it was thought that Germany, by superhuman efforts, could solve this problem largely within national borders through expanding the production of lard, butter, and domestic oilseeds; but it has now become apparent, notwithstanding some rise in the output of all these products, that a large share of the total requirements will have to continue to come from outside the country, even with substantially curtailed consumption.

The German agricultural authorities now freely admit that the possibilities of increased fat and oil production by German agriculture are very limited and, unless imports of feedstuffs can be increased, are largely confined, for all practical purposes, to such gains as can be made from expansion in the acreage devoted to oilseeds. The 1936 rapeseed and flaxseed crops yielded about 51,000 short tons of oil and the expansion in the area of these crops under the Four-Year Plan will increase this output to only about 91,500 tons by 1940. The increased acreage, of course, results largely from a reduction in the acreage of other crops.

The German authorities, therefore, in view of these conditions and the shortage of foreign exchange, have indicated the necessity, under the Four-Year Plan, of reducing fat consumption on the average of 25 percent from recent levels, which would bring it back to the 1931 level of about 40.8 pounds per capita. On the other side, a vigorous attempt will be made to increase fat supplies from outside the country in the form of marine oils.

Whale oil: Germany's imports of whale oil have amounted to 165,000 to 220,500 short tons annually, most of which has come from Norway, and whaling has been seized upon as perhaps the best opportunity for obtaining fats without the use of foreign exchange. Germany has therefore entered

the whaling industry with a mother or cooking ship and the necessary complement of fishing boats, plus two chartered outfits. The fleet is now in the Antarctic in competition with vessels from other countries, mainly Norway. German whale-oil production for the 1936-37 season is estimated at, or rather it is hoped that it will attain, a pure fat equivalent of 16,500 short tons, compared with 5,500 tons in 1935-36 and none in 1934-35. This is but a small fraction of imports, but it is understood that more ships are planned.

Domestic Production and Net Imports Into Germany of Vegetable, Animal, and Marine Oils and Fats, 1913 and 1932 to 1936.

Commodity	1913	1932	1933	1934	1935	1936
	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons
PRODUCTION						
Butter	441	458	469	467	474	491
Lard	161	165	174	190	160	176
Bacon	198	209	228	242	209	231
Edible tallow	28	28	28	28	28	28
Premier jus and oleomargarine	11	11	11	11	10	12
Vegetable oils	28	3	3	18	30	44
Technical fats (tallow, bone fats, fish oils)	53	53	53	53	55	57
Total production	920	927	966	1,009	966	1,039
NET IMPORTS						
Butter	61	77	65	67	78	86
Lard	118	118	86	46	33	39
Bacon	22	22	14	17	11	13
Edible tallow, premier jus, oleomargarine	11	10	7	1	--	--
Technical fats	22	28	33	34	21	31
Oil equivalent from oilseeds	630	713	680	745	450	662
Vegetable oils, oil acids and hard oils	--	69	40	38	87	77
Whale oil	--	238	189	157	273	176
Total net imports	864	1,275	1,114	1,105	953	1,084

Compiled from Der Vierjahresplan, Vol. 1, No. 1, January 1937.
a/ Estimated.

Fish

The much-publicized increasing of the German catch and consumption of sea fish as a means of saving foreign exchange is a project also falling

within the general scope of the Four-Year Plan. No definite plans have been announced, but the doubling of present consumption has been officially mentioned. There have been numerous additions to the fishing fleet in the past 2 years, and the catch is increasing.

The problem is regarded as mainly one of steering consumption toward increased use of fish in place of other foods, particularly meats. Present per-capita consumption is only about 25 pounds per annum, as compared with 55 pounds in England, but is increasing and is regarded as susceptible of further expansion.

German Fish Supplies, 1928 and 1935

Year	Consumption	National catch	National catch in percent of consumption
	Short tons	Short tons	Percent
1928	699,000	374,000	53
1935	822,000	591,000	72

Wochenbericht des Instituts für Konjunkturforschung, September 16, 1936.

Textile raw materials

Textile raw materials, as a group, constitute one of the major fields of interest under the Four-Year Plan. In 1936 Germany produced about 15 percent of "normal" requirements of these materials (about 1,058,000 short tons) as compared with 7 to 8 percent in 1932. Plans for the future are interpreted as calling for a minimum domestic production of such materials (including reclaimed fibers) of about 30 percent of total normal requirements, or fully one-third of current reduced consumption. The experience of the past 4 years indicates that such a figure is not only possible but to be reckoned with if found necessary. Technical limitations, moreover, would hardly prevent production from being extended to cover 40 to 45 percent of requirements if Germany should be forced to such an extreme.

Flax and hemp: The acreage devoted to flax and hemp growing has been expanded from 12,000 acres in 1932 to 124,000 in 1936 (109,000 flax, 15,000 hemp). Production of raw fiber increased from 20,000 to 190,000 short tons and that of spinnable fiber from 4,000 to 38,500 tons (33,000 flax, 5,500 hemp). These amounts are equivalent to 67 percent of normal requirements for flax and to 14 percent for hemp.

Definite production plans for these two fibers have not been announced, but complete self-sufficiency is apparently aimed at; this would require an increase of about 49,000 acres in the area of each crop. Since a doubling of total present acreage has been mentioned, it is possible that contemplation may go further, as some imported cotton and wool can be replaced by flax and cottonized hemp, and imported jute by hemp fiber.

Cell wool or staple fiber: It has often been indicated that cell-wool production in Germany is to be raised eventually to 110,000 short tons, or the equivalent of 460,000 bales of 478 pounds net. The latest estimate for 1936 production is 50,000 short tons, compared with 17,000 for 1935. In recent months, and particularly since the adoption of the Four-Year Plan, it has been suggested that even more than 110,000 tons should be aimed at.

Reliable information indicates that good technical progress has been made in improving the quality of this fiber and in its use for manufacture, with the result that distributor and consumer resistance has been overcome to a considerable extent. The principal obstacle to increased use is that its cost is about 50 percent above that of cotton, a factor that will not prevent greater substitution of this fiber for cotton and wool if manufacturers continue to be allowed prices which permit a profit.

Rayon: German rayon (continuous filament) production in 1936 is now estimated at about 61,000 short tons, compared with about 55,000 in 1935. It has been planned for the past 2 years to raise production to 77,000 tons, and output seems to be moving toward that level. This figure would also have to be revised upward if future developments under the Four-Year Plan should necessitate increased production of textile raw materials.

Wool: Germany is now producing about 9 percent of raw-wool requirements, or 16,500 out of 176,000 short tons. This was the clip from 4,000,000 sheep in 1936; there were 3,400,000 sheep in 1932. The Institute for Business Research believes it would be easy to increase sheep numbers from 4,000,000 to 6,000,000 and to cover 15 percent of the wool requirements from the domestic clip. The maximum number of sheep attainable is considered to be 10,000,000, which would provide 25 percent of total wool requirements. A figure of 10,000,000 sheep seems beyond Germany's capacity when there is taken into consideration the shortage of feed already faced, the present efficient use of space and feed, the poor demand for mutton as a meat, and the unfavorable climate, which limits pasturage and necessitates winter housing.

Reclaimed fibers: There is a large consumption of both reclaimed cotton and reclaimed wool in Germany, the supplies of which are domestically produced from cotton and wool rags. Definite figures are not available, but the total may be safely estimated at 65,000 short tons. Efforts are being made to increase these supplies, and it seems quite possible to enhance them by some 50 percent, or to between 90,000 and 110,000 tons.

German Textile Raw Materials
(Excluding reclaimed fibers)

Fiber	"Normal" requirements	1936 domestic production	Planned domestic production		Planned domestic production in percent of normal requirements	
			Minimum	Maximum	Minimum	Maximum
	1,000 short tons	1,000 short tons	1,000 short tons	1,000 short tons	Percent	Percent
Wool	176	16	22	28	--	--
Flax	50	33	50	66	--	--
Hemp	39	5	39	55	--	--
Jute	121	--	--	--	--	--
Hard fibers	132	--	--	--	--	--
Cotton	397	--	--	--	--	--
Silk	11	--	--	--	--	--
Rayon	57	61	77	88	--	--
Cell wool	77	50	110	165	--	--
Total spinning fibers	1,060	165	298	402	28	38

Concluding Observations

While the emphasis in the Four-Year Plan appears to be placed primarily on expanding domestic production of industrial raw materials, no slackening in the efforts to achieve the maximum self-sufficiency possible in food requirements is implied or discernible. There seems to be a growing realization, however, that insuperable obstacles exist to achieving complete domestic self-sufficiency of essential requirements of such products as vegetable and animal oils and fats and protein feedstuffs. Nevertheless, the achievement of 81-82 percent of self-sufficiency in the production of foods and feedstuffs as a whole during the past 2 or 3 years is impressive. It appears that this percentage may eventually be increased to 85, under conditions of normal consumption, through the more efficient use of foods and feedstuffs; consumption steering; the increased and more efficient farm use of labor, power, and machinery; and possibly the enhancement of land resources.

Even before the advent of National Socialist control, however, Germany had virtually achieved self-sufficiency in bread grains, was completely self-sufficient with regard to potatoes, which figure so prominently in the nation's diet and of which Germany is the leading world producer, and for a number of years had produced sugar in excess of domestic requirements.

In this article no attempt has been made to analyze or appraise the cost to Germany's economy of the program of national self-sufficiency. It should be borne in mind, however, that the cardinal tenet of current German policy is the predominance of political and social rather than economic considerations.

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AGRICULTURE IN PALESTINE AND THE DEVELOPMENT OF JEWISH COLONIZATION

. . . By N. W. Hazen*

Palestine, although little larger than the State of Vermont, offers certain economic and sociological developments in its agriculture that are of widespread interest. Of immediate economic importance to American agriculture is the recent rise of Palestine to the position of the world's second largest exporter of citrus fruit. The rapid increase in the production of citrus fruit during the past decade is closely associated with Jewish colonization in Palestine. This development constitutes one of the outstanding social movements of recent years relating to agriculture.

Physical Characteristics of the Country

Palestine, bordering on the eastern shore of the Mediterranean, is a long and narrow country, with a total area of 9,839 square miles, or slightly more than that of the State of Vermont. Although 140 miles long, the country is only about 23 miles wide in the north and about 80 miles wide in the south. Agriculture has always played a dominant role in the national economy of the country. More than 50 percent of the population (exclusive of nomadic tribes and the British military forces) is engaged in farming. The population on September 30, 1936, was placed at 1,279,410, of which 784,771 were Moslems, 376,786 Jews, 108,595 Christians, and 11,258 not classified as to religious affiliation.

Topography

Because of variations in the topography, climate, and soil of Palestine, the agricultural potentialities of the country may be considered under four divisions: (1) the hill country of Galilee and Judaea; (2) the various plains; (3) the Beersheba region; and (4) the desert areas. See figure 1 opposite page 130.

The hill country, consisting chiefly of limestone formations, covers a little more than one-third of the total area of the country. Except in the valleys, agriculture in these regions is greatly restricted,

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* Assistant Agricultural Economist, Bureau of Agricultural Economics.

not only because of unfavorable topography but also because of inadequate rainfall and poor soil.

The plains regions, of which there are five, constitute about 21 percent of the total area of the country. Practically all of the agriculture of Palestine is carried on in these regions, although development in some instances has been retarded because of insufficient rainfall. The Maritime Plain, extending along the Mediterranean Sea from Haifa in the north to Gaza in the south, is the largest plain. It is a fertile strip of land varying from 2 to 20 miles in width. Agricultural activities in this region are centered in the production of citrus fruit, the principal agricultural enterprise and the leading export industry of the country. The second largest plain is the Valley of the Jordan. This valley is narrow, less than a mile wide, and lies entirely below sea level. Here are grown the tropical products of Palestine. Second in agricultural importance, however, is the Plain of Esdraelon, which extends across the northern part of the country from Haifa to the Jordan. This plain, although only third of the five in size, is said to contain the most fertile soil in Palestine and offers great possibilities for intensive farming.

The Beersheba region, extending southward from the mountains of Judaea to the Egyptian border, covers a little more than 12 percent of the area of the country. It is a region of very light rainfall and cannot be developed without irrigation. The desert areas, situated east and south of Beersheba, cover approximately one-third of the total area of Palestine.

Climate and soil

Rainfall for the country as a whole averages only about 20 inches per annum and diminishes from north to south and from west to east. There are only two seasons in Palestine: the winter or rainy season, November to April, and the summer season, May to October. The average annual precipitation over a period of several years at representative stations is reported as follows by the Palestine Department of Agriculture and Forests:

	Coast region (west)		Central region		Eastern region	
General location	Station	Inches per annum	Station	Inches per annum	Station	Inches per annum
North	Acre	22.3	Jenin	18.7	Beisan	10.3
South	Gaza	14.7	Beersheba	7.4	Jericho	4.4

Temperatures in the various regions of Palestine range from mildly temperate in character to tropical. January is the coldest and rainiest

month of the year, and August the hottest and driest. The hill country frequently has frosts and snow in the winter, and cool winds temper the summer heat. Temperatures in the plains regions, however, seldom reach the freezing point, those of the Mediterranean coastal plains ranging from moderate to subtropical in character and those of the Jordan Valley from subtropical to tropical.

Winds have an important effect on agriculture in Palestine. In the winter, winds from the west carry moisture which provides the winter rainfall. Eastern desert winds of late April and early May are usually hot and dry and often cause serious damage to crops.

Because of the low average rainfall, the problem of water supply has always been a serious one in the agriculture of the country. As a result of irrigation works begun over a decade ago, however, and recent discoveries of underground water resources, this difficulty is gradually diminishing in severity.

With the exception of those on the northeastern border, the soils of Palestine are typically calcareous. The heavy soils are rich in lime and potash, but the light soils lack both these elements. Moreover, because of the generally dry climate, the soils have a very low humus content and are poor in nitrogen. In general, much of the country's soil fertility has been lost through centuries of neglect and misuse. The most fertile regions are in the valleys where the soil has been replenished by sediments from the hills. In the rest of the country the soil is in an advanced stage of exhaustion.

Irrigation

Although not one of the natural physical characteristics of the country, irrigation is such an important factor in any contemplated expansion of agricultural activities in Palestine as to warrant its inclusion in this section.

The numerous surface streams of Palestine carry a considerable volume of water during the rainy season but, with the exception of the Jordan on the Eastern border of the country and the Auja in the Maritime Plain north of Jaffa, they are wholly or partly dry during the summer months. The drainage of the country is to the west into the Mediterranean and to the east into the Sea of Galilee, the Jordan River, and the Dead Sea.

The land actually under cultivation in Palestine is estimated to be between 1,300,000 and 1,500,000 acres. Of this, only about 100,000 acres are irrigated. From a production standpoint, however, this irrigated land is more important than the comparison of area indicates as it will produce about five times as much as will land without irrigation.

Because of the limited surface water available and the lack of rainfall, the population in many parts of the country long ago resorted to digging wells to obtain the necessary water supplies. The digging of wells received considerable impetus as a result of Jewish colonization. The high price of land and the many restrictions connected with its acquisition compelled Jewish farmers to cultivate intensively, and crops so grown generally required more water than was available from natural sources.

Until recently it was believed that only the Maritime Plain contained underground water resources in sufficient quantities to warrant their exploitation. Recent successful borings, however, have shown that underground water in large quantities is to be found in the western foothills as well as in the eastern part of the country. This has further encouraged well digging and from 1933 through 1936 Jewish companies alone made 473 borings, of which 396 were successful. At present, the number of wells in the country exceeds 3,000, and it is believed that 1,000 more could be dug without affecting the capacity of existing ones. Most of the wells are equipped with modern pumps and each supplies on the average about 1,750 cubic feet of water per hour, although some of the new wells supply several times this amount.

A further increase in the water supply of Palestine could also be effected through the erection of dams and reservoirs in the hill country to store the rain water that falls there during the rainy season. It is not believed, however, that such works will be attempted on a large scale in the very near future.

Agricultural Production

Palestine is primarily an agricultural country. In 1931, 53 percent of the country's settled population (that is, exclusive of the nomadic tribes) was engaged in agriculture. The area actually under cultivation in Palestine at the present time is estimated at from 1,300,000 acres to 1,500,000 acres. Statistics giving the acreage for most crops are not available. A large number of products, however, are being grown. In addition to citrus fruit, which is the most important crop, wheat, barley, corn, millet, olives, sesame, almonds, figs, melons, grapes, apples, pears, vegetables, and tobacco are produced. Moreover, increasing attention is being given to dairying and poultry keeping.

Estimates of the total area of land available for ultimate cultivation vary considerably. The Palestine Commissioner of Lands on April 30, 1930, placed this total at about 3,025,000 acres, of which 1,330,000 acres were in the hill country, 1,290,000 acres in the plains region, and 405,000 acres in the Beersheba region. Other

estimates of the amount of land available for cultivation range from 2,000,000 to 4,000,000 acres, the difference being due in most cases to a lack of agreement as to what constitutes cultivable land.

Acreage and production statistics in Palestine are scarce. This is particularly true of the agriculture conducted by the Arabs. Because of the spectacular development of the Jewish agricultural settlements and the careful records kept, more is known about them.

Production of principal agricultural commodities in Palestine, 1929-1935

Commodity	Unit	1931	1932	1933	1934	1935 a/
Wheat	1,000 bushels	2,927	1,877	1,633	3,042	3,785
Barley	" "	1,892	1,116	1,558	3,155	3,123
Lentils	Short tons	4,142	1,770	1,705	2,480	2,866
Beans	" "	4,045	847	722	---	---
Peas	1,000 pounds	2,346	3,110	7,436	---	---
Durrah b/	" "	36,512	34,066	19,532	92,594	101,412
Tomatoes	" "	---	17,588	18,470	24,694	36,346
Potatoes	1,000 bushels	30	37	92	110	239
Sesame	Short tons	2,231	495	236	2,866	7,606
Olives	" "	37,375	7,230	3,967	---	---
Oranges c/	1,000 boxes	2,616	3,525	4,200	5,129	6,879
Grapefruit c/	" "	81	150	251	420	889
Lemons c/	" "	8	11	15	23	31
Watermelons	Short tons	24,316	35,411	22,524	44,643	76,059
Grapes	" "	9,144	23,868	13,391	---	---
Figs	" "	7,415	10,907	13,253	---	---
Almonds	" "	538	893	1,085	---	---
Fruit, other	" "	2,503	5,777	7,019	---	---
Tobacco	" "	556	629	404	1,114	---
Vegetables	" "	16,609	26,864	23,485	---	---

Compiled from the Palestine Gazette No. 565, Agricultural Supplement No. 1, Jan. 23, 1936, and No. 572, Agricultural Supplement No. 2, Feb. 20, 1936; Annual Report of the Department of Agriculture and Forests, 1931 to 1934; Annual Report of the Department of Customs, Excise and Trade, 1931-1935.

a/ Preliminary.

b/ A variety of millet, also called Indian millet or guinea corn.

c/ Exports only; production figures not available.

Fruits and vegetables

Citrus fruits, the main cash crop of the country, account for about 30 percent of the value of all agricultural production. The citrus industry of Palestine occupied an important place in the economy of the country even before the World War, but the main expansion has taken place during the last 6 or 7 years. Practically all of the groves are located along the Mediterranean coast in the immediate vicinity of Jaffa, though other minor producing districts are located near Gaza and Acre situated respectively in the southern and northern parts of the Maritime Plain. Some very small areas are located near the Sea of Galilee in the northeast and Jericho in the southeast. All of the fruit is grown under irrigation. See figures 2 and 3 opposite page 131.

Oranges constitute by far the greatest part of the citrus crop, although grapefruit, lemons, and tangerines are also being produced in increasing quantities. The Jaffa or "Shamooti" orange of Palestine is a winter orange somewhat larger and longer than the average California navel, but with a much thicker skin. Grapefruit is generally planted on the heavier soils, and the increase in its production has been unusually rapid in recent years.

From 1924 to 1936, the area under citrus fruits in Palestine increased eightfold from 8,500 acres to 70,000 acres. Prior to 1930, the Arabs had more land under citrus than the Jews. In 1936, however, about 40,000 acres of citrus were Jewish owned, compared with about 30,000 acres owned by the Arabs. The increase in plantings since 1930 has taken place largely in the Maritime Plain and has transformed the entire agriculture of this coastal region.

Official production statistics are not available, but on the basis of trade data it is estimated that during the period from 1924-25 to 1934-35 citrus fruit production rose from about 2,350,000 boxes to 9,100,000 boxes.

Recently there have been attempts to discourage further plantings of citrus trees as it is believed that within 5 years, when the present acreage is in full bearing, from 20,000,000 to 25,000,000 boxes of citrus fruit will be available for export. The rate of planting diminished considerably in 1935, when only 2,500 acres were set out compared with about 7,500 acres planted in 1934. This decline in plantings is attributed to the lower prices obtained by citrus growers during the 1934-35 season, as well as to the almost prohibitive cost of land suitable for citrus fruit production.

Other fruits produced in Palestine range from the tropical varieties, such as bananas and dates, which are grown under irrigation

in the Jordan Valley, to the production of deciduous fruits in the hill country. Wine, table, and raisin grapes are produced in substantial quantities, but production of the last two does not suffice for domestic needs. The Arabs specialize in the growing of raisin and medium-quality table grapes while the Jews produce most of the wine grapes and wines as well as the high-quality table grapes. The olive is the principal fruit of the hill country. It not only represents one of the main sources of income of the Arab peasant, but constitutes also an important element in his diet, especially in the form of oil. Some poor-quality figs are grown in Palestine, generally interplanted with olives and grapes. The growing of melons, which has long been an important summer crop for the Arabs in the Maritime Plain, has recently given way in many sections of the coast to the more profitable citrus fruits.

Vegetable production has expanded considerably during the last 10 years, and at present most of the vegetables known to the American consumer are being produced in Palestine in increasing quantities. This development is due not only to the increase in local demand but also to the climate, which permits the growing of most vegetables throughout the year. The Maritime Plain is the vegetable center of Palestine, but the Jordan Valley is known as the region for early and out-of-season vegetables.

Cereals

Most of the cereals of the country are produced by the Arabs. Wheat and barley are the principal winter crops; maize, millet, and sesame, the summer crops. The area under wheat for harvest in 1936 was about 550,000 acres and that under barley, 650,000 acres. These figures may be compared with those of the preceding 5 years, during which the area of wheat averaged 480,000 acres and that of barley 453,000 acres. Grain production varies greatly from year to year according to the rainfall. Normally light rainfall and the obsolete methods of production have tended to keep average yields very low. Even on the better soils, wheat ordinarily yields only 9 or 10 bushels per acre, barley 18 or 19 bushels, corn 16 or 17 bushels, and millet 10 or 11 bushels. Yields are even lower in the hill country where cereals are gradually giving way to olives, wine grapes, and fruit trees. The crop rotation generally followed by the Arabs is accomplished by planting wheat one year and millet or sesame the next. In the southern part of the country, where rainfall is very light and where droughts frequently occur, the land is fallowed every third year.

Dairy and poultry products

The dairy industry of Palestine has expanded very rapidly in recent years. This development is a direct result of livestock breeding work undertaken in the Jewish agricultural settlements, in

many of which the sale of dairy products now represents the principal source of income. Native cows of the Arab peasant yield from 130 to 185 gallons of milk a year, whereas the cows developed by the Jews by crossing Dutch purebred bulls and native Damascus cows produce an average of about 1,050 gallons a year.

The expansion and improvement in the poultry industry is also the result of the work of Jewish agricultural settlements. The native hen of the Arab peasant produces only about 70 eggs a year. Through the introduction of Leghorn blood, however, the Jews have developed a fowl which averages more than twice this production per hen.

Foreign Trade in Agricultural Products

Imports

Although Palestine is predominantly an agricultural country, it imports large quantities of foodstuffs. These imports have risen substantially because of the large increase in population since 1932. Cereals, livestock, and dairy and poultry products are the principal agricultural commodities imported into Palestine. Of secondary importance are fresh and dried fruits, sugar, beans, and onions.

The country's cereal requirements far exceed its production, and wheat and wheat flour head the list of cereal imports. In 1934, the value of wheat imports exceeded $1,600,000 but decreased to $585,000 in 1935. The value of wheat flour imports rose from a little over $1,160,000 in 1934 to $1,740,000 in 1935. The principal countries supplying wheat to Palestine are Turkey, Syria, and Russia, whereas wheat flour is imported mainly from Australia, the United States, and Syria.

The value of livestock imports usually exceeds that of wheat, and in 1935 it even exceeded the combined value of wheat and wheat flour imports. Imports of livestock, including live cattle, sheep, and goats exceeded $1,700,000 in value in 1934 and $2,750,000 in 1935. Bulgaria, Cyprus, and Rumania are the leading suppliers of live cattle to Palestine.

Despite an increase in the production of domestic butter in recent years, imports of butter into Palestine have greatly increased since 1931. In 1935, 5,052,000 pounds were imported at a total value of $950,000. The principal suppliers are Australia, Egypt, Latvia, and Lithuania. There has also been a steady development in the egg import trade, the quantity of eggs imported having increased from 1,500,000 dozen, valued at $175,000 in 1932, to 6,327,000 dozen, valued at $690,000 in 1935. The principal countries supplying eggs are Egypt, Turkey, Syria, and Iraq.

Sugar imports have also increased in the last 5 years, rising from 12,232 short tons in 1931 to 29,718 tons, valued at over $1,000,000, in 1935. Egypt is the principal supplier of sugar, followed by the Netherlands Indies, Czechoslovakia, and the United Kingdom.

Foreign trade of Palestine in principal agricultura products, 1931-1935

Commodity	Unit	1931	1932	1933	1934	1935
Imports						
Wheat	1,000 bu. a/	779	788	2,206	1,674	657
Potatoes	1,000 bu. a/	251	286	358	454	580
Wheat flour	1,000 bbl. b/	190	226	303	278	380
Barley	1,000 bu. c/	776	609	1,141	653	574
Durrah and maize	1,000 bu. d/	57	368	492	225	111
Rice	1,000 lb.	21,579	28,248	34,640	30,910	39,504
Beans	1,000 lb.	2,804	7,258	13,697	14,522	10,183
Sugar	Short tons	12,232	14,176	17,711	20,933	29,718
Onions	1,000 lb.	5,900	7,209	7,870	10,225	14,350
Cattle	Number	8,155	6,221	8,796	16,166	28,538
Goats and kids	Number	22,499	28,738	53,155	93,067	106,251
Sheep and lambs	Number	109,200	64,108	61,129	161,216	237,748
Poultry, live	Thousands	40	180	280	679	1,765
Butter	1,000 lb.	756	1,089	1,926	3,909	5,052
Eggs	1,000 dozen	631	1,509	2,860	4,748	6,327
Apples	1,000 boxes e/	66	93	113	246	282
Prunes	1,000 lb.	289	377	520	842	977
Raisins and currants	1,000 lb.	88	79	132	1,354	1,248
Exports						
Oranges	1,000 boxes	2,616	3,525	4,200	5,129	6,879
Grapefruit	" "	81	150	251	420	889
Lemons	" "	8	11	15	23	31
Durrah and maize	1,000 bu. d/	272	11	13	37	134
Hides and skins	1,000 lb.	1,208	888	1,045	1,775	2,930
Wine	1,000 gal.	268	364	249	215	195
Olive oil, edible	1,000 lb.	1,082	734	668	604	1,063
Watermelons	Short tons	17,555	12,102	7,498	11,485	12,474

Compiled from Palestine Commercial Bulletins, July 1931 to July 1936.
a/ Bu. 60 lb. b/ Bbl. 196 lb. c/ Bu. 48 lb. d/ Bu. 56 lb.
e/ Boxes 48 lb.

Exports

Aside from citrus fruits, exports of agricultural products from Palestine are relatively unimportant. In years of good domestic crops, barley, millet, corn, sesame, and some wheat are exported. Wines and olive oil, together with raw hides and skins, are other secondary items of the agricultural export trade.

The increase in citrus fruit exports from Palestine has been a source of great prosperity to the country as well as a cause of alarm to other citrus-exporting countries of the Mediterranean Basin. Citrus exports are the most important item, not only in the agricultural exports, but in the total exports of the country as well. In 1928 the combined value of oranges, grapefruit, and lemons exported amounted to $3,187,152, or 43 percent of the value of all exports during that year. In 1935, the combined value of citrus fruit exports had increased to $17,300,531 and represented 75 percent of all Palestinian exports, agricultural and industrial.

Value of citrus fruit exports compared with total exports from Palestine, 1928-1935

Calendar year	Oranges	Grapefruit	Lemons	Citrons	Total citrus	Total exports a/	Percentage citrus exports are of total exports
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Percent
1928	3,156,457	4,010	14,170	12,515	3,187,152	7,345,037	43
1929	2,664,986	17,320	18,859	17,286	2,718,451	8,581,797	32
1930	4,410,620	50,036	15,593	14,625	4,490,874	9,227,045	49
1931	4,019,624	182,534	12,503	10,022	4,224,683	8,156,324	52
1932	5,963,880	278,959	21,836	12,317	6,276,992	13,629,764	46
1933	8,258,273	547,327	28,005	9,732	8,843,337	14,547,032	61
1934	12,245,590	1,109,775	61,626	19,593	13,436,584	20,498,975	66
1935	15,347,340	1,842,905	89,218	21,068	17,300,531	22,950,179	75

Compiled from the Annual and Monthly issues of the Palestine Commercial Bulletin, Department of Customs, Excise and Trade, Government of Palestine, 1928-1935. Original value in Palestinian currency converted to dollars at the average yearly rate.
a/ Both agricultural and industrial.

The United Kingdom is the principal customer for Palestine's citrus fruit, in 1928-29 taking 1,258,795 boxes or about 80 percent of a total

export of 1,580,544. In 1935-36, however, although the quantities of citrus fruits exported from Palestine to the United Kingdom were much larger than those shipped in 1928-29, they represented a smaller percentage of the total. Thus, in 1935-36, 3,944,785 boxes of citrus fruits of all kinds were shipped to the United Kingdom, representing only 67 percent of a total Palestinian citrus export trade of 5,875,767 boxes.

The citrus export season starts early in November and ends early in May, the bulk of the fruit moving out of the country in January, February, and March. Exports of citrus from Palestine, therefore, do not compete directly with exports of citrus from the United States, the bulk of which arrives in Europe during the period May through August.

The only other fruits important among the agricultural exports of Palestine are watermelons and other melons, exports of which decreased from 17,555 short tons in 1931 to 12,474 tons in 1935. This decline was a direct result of the contraction of the Egyptian market, formerly the principal destination of Palestinian watermelons.

Wine exports from Palestine have decreased since 1932, mainly because of competition from other wine-producing countries and protective measures adopted in Egypt, which used to be Palestine's principal wine customer. The value of these exports, which was in excess of $150,000 in 1932, decreased to $100,000 in 1935. At present, the United States is the principal buyer of Palestinian wines, followed by the United Kingdom and Egypt.

Exports of olive oil decreased from 1931 to 1934 but rose again in 1935 to the 1931 level. The value of olive oil exports, which was only about $90,000 in 1934, rose to $160,000 in 1935.

Activities of the Haavara Company

A development that has had an important effect on the foreign trade of Palestine was the establishment of the Haavara Company, Ltd., a nonprofit organization founded in November 1933 with the approval of both the German and the Palestine Governments. This organization undertakes to transfer the capital of German Jews, emigrating to Palestine, into the form of goods that can be utilized in the latter country, principally machinery, iron and steel products, building materials, etc.

The establishment of such a transfer agency was necessitated by the inability of Jews to remove their capital from Germany except under extremely unfavorable conditions. The Haavara has worked out an arrangement with the Reichsbank whereby the German Jew who wishes to

emigrate to Palestine transfers his capital in marks to the account of the Haavara in the Reichsbank in Berlin. Palestinian importers buy these marks which may be used only for the purchase of German goods. The Palestine currency resulting from the sale of these marks is deposited with the Haavara in Palestine for the account of the German immigrant. The Palestine Government reserves the right to reject the transfer of German goods if they compete with Palestinian products.

It is reported that from November 1, 1933, to January 31, 1936, the equivalent of $13,000,000 was placed to the credit of the Haavara under the procedure described above. During this period 1,600 German-Jewish families received assistance in transferring their capital to Palestine. The increase in capital brought in by German Jews through the Haavara has improved economic conditions in Palestine. Another effect of the Haavara activities has been to reduce Palestine imports from the United Kingdom, which is the largest market for Palestinian agricultural exports.

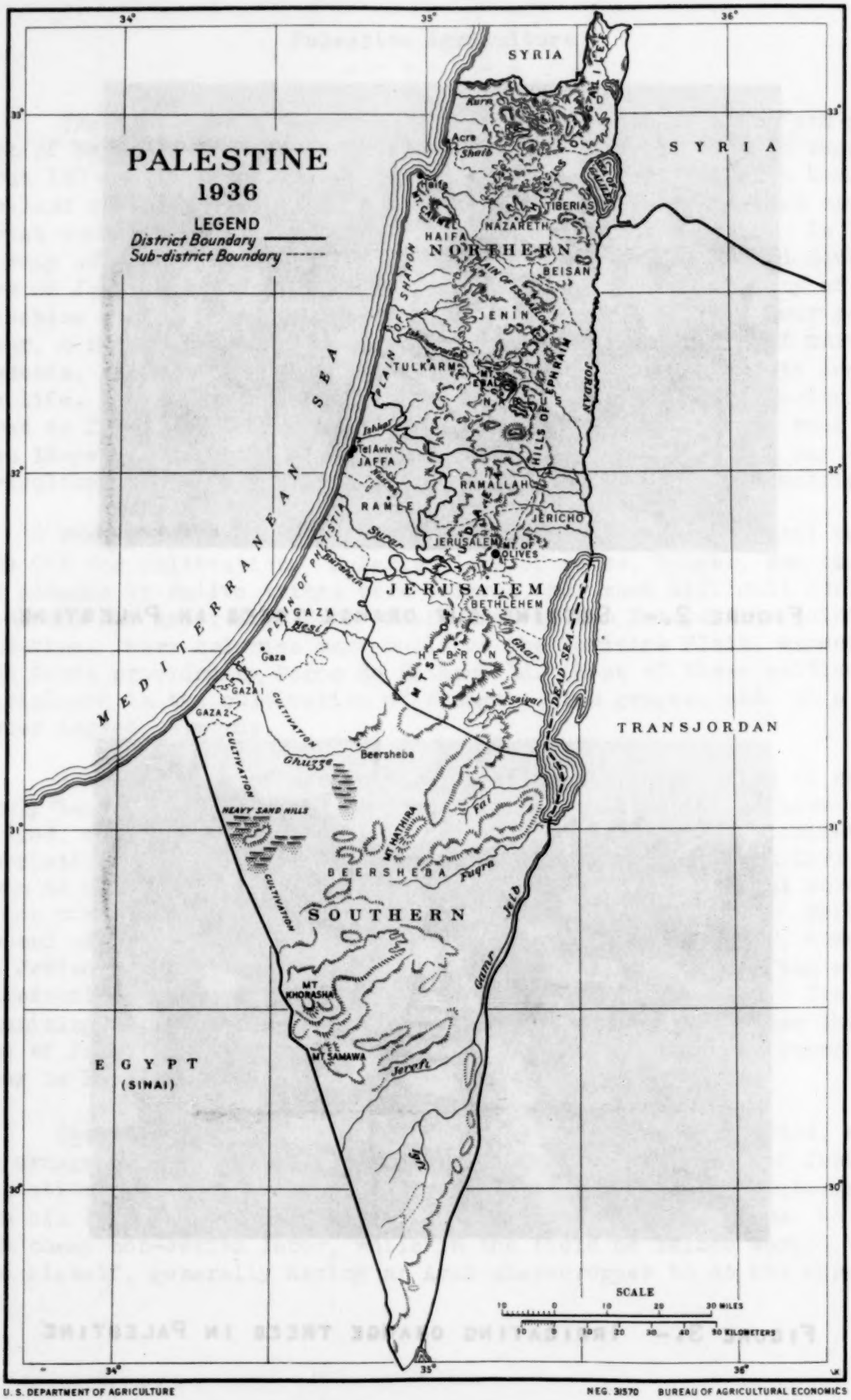
Jewish Agricultural Colonization

Origin and development

For a clear understanding of what the agricultural colonization of the Jews has meant to Palestine, it is important to recall the state of the agriculture of the country when the first Jewish pioneers arrived in the second half of the nineteenth century. The rural order of Palestine in the seventies of the last century was extremely backward and characterized by deeply ingrained agricultural traditions and primitive methods of cultivation. A large part of the country was dry and bare, the valleys were generally swampy, and all of it was neglected.

The history of the agricultural colonization of Palestine by the Jews may be divided into three periods:

First period, 1870-1907: The first step toward the development of Jewish agricultural colonization in Palestine was made in 1870 when the Alliance Israelite Universelle, the representative body of French Jewry, founded the first agricultural school in Palestine. To be sure, this French-Jewish organization was prompted more by the desire to relieve the misery of the local Jewish community of Palestine than by national aspirations when it founded the school of Mikveh Israel (The Gathering of Israel) near Jaffa. This first move, however, was to have more far-reaching consequences than its originators had anticipated.



U. S. DEPARTMENT OF AGRICULTURE NEG. 31570 BUREAU OF AGRICULTURAL ECONOMICS

FIGURE 1.- MAP OF PALESTINE

FIGURE 2.- SETTING OUT ORANGE TREES IN PALESTINE

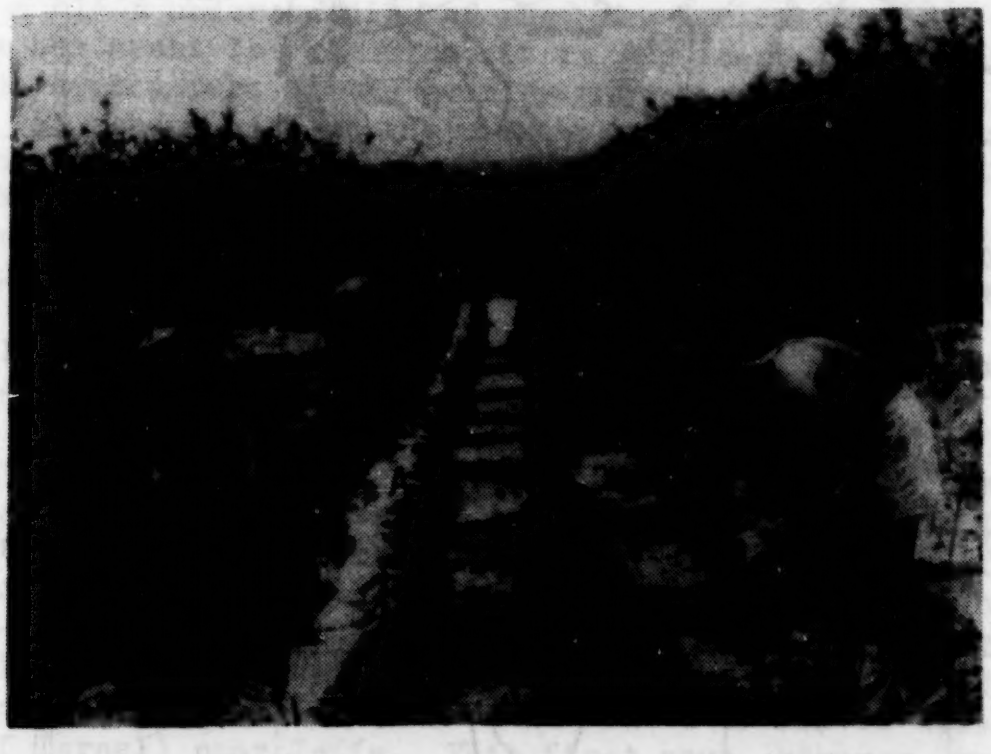


FIGURE 3.- IRRIGATING ORANGE TREES IN PALESTINE

The fact that a few young students were able to transform a plot of barren and sandy soil into a fertile district able to support about 150 people acted as an impetus and an inspiration for a back-to-the-land movement, first among the Jews of Palestine, and then among Jewish communities in countries where they were not welcome. In 1878, a group of Jews from Jerusalem acquired a large tract of land northeast of Jaffa and founded the first Jewish agricultural colony of Palestine under the name of Petach Tikvah (Door of Hope). Four years later, a number of young Jews from Russia, composed mostly of university students, escaped the pogroms of 1882 and came to Palestine to lead a new life. They founded the agricultural colony of Rishon-le-zion (The First to Zion), with the help of Baron Edmond de Rothschild, near the then 12-year-old school of Mikveh Israel and thus opened the way to the agricultural colonization of Palestine by Jews from other countries.

The early pioneers suffered greatly before the poor soil was made fit for cultivation. Malaria, lack of water, hunger, and raids and attacks by native tribes were endured, but such difficult conditions did not deter Jews from Russia and eastern Europe from going to Palestine. More colonies were built on the Maritime Plain, especially with funds provided by Baron de Rothschild. Most of these settlements specialized in the cultivation of oranges, wine grapes, and, to a lesser degree, almonds.

Another group of agricultural settlements, consisting of relatively large tracts of land devoted to wheat cultivation in Lower Galilee, was founded between 1901 and 1907 by the Jewish Colonization Association. The latter was a joint-stock company formed in 1891 by Baron de Hirsch for the purpose of aiding Jewish agricultural colonization work chiefly, although not exclusively, in Argentina. Before the end of the first Jewish colonization period in Palestine, however, the Jewish Colonization Association had been entrusted with the administration of the colonies founded by Baron de Rothschild. Its colonizing activities in Palestine were then reorganized under the name of Palestine Jewish Colonization Association, commonly known today as P. I. C. A.

Second period, 1908-1920: The first colonization period, with its orange groves and large wheat fields, developed a type of Jewish plantation owner more interested in obtaining the greatest returns from his land than in helping Jewish laborers. In the groves, he often used cheap non-Jewish labor, while in the field he seldom worked the land himself, generally having an Arab sharecropper to do the work.

In 1908, when the Zionist Organization 1/ began its program of agricultural colonization, it deviated from that of the P. I. C. A. and attempted to provide, with the least possible expenditure, a permanent agricultural existence of a high standard to as large a number of Jews as possible. From the outset, the lack of funds forced that organization to develop its colonization on the lines of intensive mixed farming on small areas. This period is also important for its development of the first "communal" agricultural settlement, the successful collective farms which in later years were to arouse the keen interest of sociologists the world over.

Besides the system of mixed farming on small areas, the five or six agricultural settlements founded by the Zionist Organization during this period differed from the earlier colonies in many other ways. The settler received about 25 acres instead of an average of 125 acres (as did the colonists of the P. I. C. A.) with the stipulation that the necessary work was to be performed by the settler and his family in order to avoid absentee landlordism. In case any extra work was required, only Jewish labor could be employed. Furthermore, the settlers were to choose for their colony the social system they preferred. While these principles and others of lesser importance were not all equally clear and equally applied at the beginning of this period, they developed through trials and experience and have now become the basic underlying principles of the colonization policy of the Zionist Organization.

The fact that the new agricultural settlements of the Zionist Organization were compelled to employ only Jewish labor gave a tremendous impulse to the movement of settling Jews on the land in Palestine. Until this policy was adopted, it was extremely difficult for young Jewish men who had left their universities and their homes in other countries to find work in the Jewish colonies, as the Jewish landlords preferred the cheaper Arab labor. Moreover, given the opportunity of working on diversified farms, these young men were soon able to master the elements of general agricultural production and became the vanguard of the future and more extensive agricultural colonization.

Third period, 1921 to date: Since 1921, the Zionist Organization has bought extensive tracts of land with the view to applying agricultural colonization systematically to large areas. The policy of land purchasing on a larger scale was also adopted by the P. I. C. A. during this period. This expansion resulted from the Balfour declaration

1/ This organization was founded at the first Zionist Congress, which met in 1897 at Basel, Switzerland. Its object was to carry out the aims of Zionism, declared then to be "the establishment for the Jewish people of a publicly and legally assured home in Palestine."

of November 2, 1917, in which the British Government pledged itself to facilitate the establishment in Palestine of a home for the Jewish people, and particularly from the embodiment of this pledge in the Treaty of Sevres of August 20, 1920.

When land for colonization is bought by the Keren Kayemeth Leisrael (Jewish National Fund), which was founded in 1901 as the principal financial institution of the Zionist Organization, it becomes the inalienable property of the Jewish people. It is allotted to settlers on a 49-year lease. Two percent of the value of the property, assessed every 10 or 25 years, depending on the value of the land, is paid by them as ground rent. Such assessment is based on the unimproved value of the land. This system eliminates land speculation, and any increase in land value resulting from the development and improvement of the country goes to the Zionist Organization. This procedure was the one desired by the majority of the settlers who, in accordance with their socialistic tendencies, are themselves opposed to profiting from unearned increment. This tendency toward collective ownership of land has had an important effect on the social structure and development of the Jewish agricultural settlements. (See page 135.)

If, however, a settler wishes to buy land as private property, he can do so through private companies, such as the Palestine Jewish Colonization Association and the American Zion Commonwealth, or directly from private individuals. The Palestine Land Development Company, founded in 1908 by the Zionist Organization to act as the purchasing agent for the Jewish National Fund, also deals with private companies and individual settlers.

Agricultural colonization of the present period, which started in 1921, has been predominantly the work of certain agricultural colonization agencies.

Agricultural colonization agencies

At present, the two principal agencies for the settlement of Jews on the land in Palestine are the Palestine Jewish Colonization Association, or P. I. C. A., and the Colonization Department of the Jewish Agency for Palestine. 2/ Besides these two major agencies, there are many land

2/ Since October 1929, the Jewish Agency for Palestine has replaced the Zionist Organization as the institution charged with the settlement of Jews in that country. Under Articles 4 and 6 of the Mandate under which Palestine is now governed, the Government of Palestine is required to encourage, in cooperation with the Jewish Agency, "close settlement by Jews on the land, including State lands and waste lands not required for public purposes."

companies which either buy large tracts of land and dispose of them in small lots to would-be settlers or improve and plant the land before selling it to immigrants.

Of the two principal Jewish agricultural settlement agencies, the most important is the P. I. C. A. It is responsible for the efficient administration of the large and well-known Jewish colonies of Petah Tikvah, Rehovoth, Rishon-le-Zion and Zichron-Jacob. Aside from its colonies in the Maritime Plain, where oranges, grapes, and almonds are the principal crops, the P. I. C. A. has a number of settlements in Upper and Lower Galilee, where cereals and vegetables are grown. In 1921, P. I. C. A. obtained a concession from the Palestine Government to drain the Kabbara swamps, an area of about 1,400 acres. The reclamation work has been completed and the area is now being settled.

It is the policy of the P. I. C. A. not to engage in promoting the emigration of Jews to Palestine but to assist those who are already in the country and who desire to settle on the land. The P. I. C. A. colonies are founded on the principle of individual ownership, and generous facilities are granted to settlers who cannot pay outright for their land purchase. Payments for the land are made in annual installments, although no payment is required for the first 5 years. From the sixth to the tenth year, only the payment of interest at the rate of 2.5 to 3 percent is required. It is not until after the tenth year that the settler is asked to begin small annual payments on the principal. Unlike the policy of the Jewish Agency for Palestine, however, the P. I. C. A. contracts with the settlers do not prohibit the employment of paid labor, whether Jew or Arab.

Until very recently, the P. I. C. A. was still the largest Jewish landowner in Palestine, possessing about 125,000 acres out of a total area of 370,000 acres estimated to cover the Jewish agricultural settlements in the country. Since, however, the deeds for a part of this area were recently transferred to settlers who had paid up their indebtedness, the Jewish Agency for Palestine is now the largest landowner with an area of about 100,000 acres.

The purpose of the agricultural colonization of the Jewish Agency for Palestine is not purely philanthropic, as are often the P. I. C. A. activities. The Jewish Agency aims at the building of a diversified and prosperous agriculture, as well as a healthy agricultural class, as the basis for the creation of a Jewish home in Palestine.

The agricultural settlement activities of the Jewish Agency for Palestine are now carried on by the Jewish National Fund and the Palestine Foundation Fund (Keren Hayesod) founded in 1921. The former is reponsible for the purchase and preparation of the land and the

building of rural roads, water systems, etc., while the latter provides means for the construction of settlers' homes and the acquisition of agricultural implements, machinery, etc. These organizations work hand in hand for the furtherance of Jewish agricultural colonization in Palestine. At present, the basic principles underlying the colonization policy of the Jewish Agency for Palestine are these: (1) The land purchased by the Jewish National Fund remains the inalienable property of the Jewish people and is only rented on long leases to the settlers; (2) a settler is not allotted more land than he can farm with his own and his family's labor; (3) if, as a result of land improvement, irrigation, and intensive farming, more labor is required by the settler for the efficient cultivation of his land, he can hire only Jewish agricultural laborers.

It is estimated that the total investment of the Jews in the agriculture of Palestine from the beginning of the colonization movement until the fall of 1936 was between 110,000,000 and 120,000,000 gold dollars. One-half of this amount is said to have been invested, mostly by private companies and individuals, in the citrus groves of the Maritime Plain, and the balance by the Zionist Organization, the P. I. C. A., and private companies in and outside the coastal region.

Number, area, and population of Jewish agricultural settlements in Palestine, 1899 to 1936

Year	Settlements	Inhabitants	Area
	Number	Number	Acres
1899.....	22	5,000	74,100
1914.....	43	12,000	98,800
1922.....	73	15,000	148,300
1930.....	107	45,000	259,500
1933.....	135	52,000	311,300
1936.....	204	95,000	365,700

Compiled from Jews in Palestine, by A. Revusky, New York, 1936.

At the beginning of 1936 it was estimated that there were 204 Jewish agricultural settlements in Palestine with a population of about 95,000 and a land area of some 366,000 acres. From the foregoing table it is seen that over 25 percent of the Jewish population living in Palestine at the beginning of 1936 resided in the agricultural settlements. The fact that that many Jews live in the agricultural settlements, however, does not mean that they are all engaged in agricultural production. Some of the densely populated settlements, while still retaining a nucleus of farmers, are gradually taking the shape of towns, with the majority of the population engaged in small industries.

Estimates of the Jewish Agency show that in 1936 the number of Jews in Palestine actually engaged in agriculture was 23,000 out of a total of 143,000 gainfully employed, or about 16 percent. This percentage is much lower than it was prior to the 1933-1936 immigration wave and has greatly perturbed the Zionist leaders, whose policy is to build a national economy with a strong agricultural basis.

Types of Jewish agricultural settlements

The first period of agricultural colonization by the Jews in Palestine resulted in the establishment of individual settlers. Although economically and numerically these settlers now form a strong group of Jewish colonists, they have not attracted as much attention as have the commune and cooperative types of colonization.

The Kvutza: The success of the "kvutza" or agricultural commune movement of Palestine has aroused much interest among sociologists and economists throughout the world. The kvutza (plural, kvutzot) is a typical farming commune, where property and production belong to all members collectively and where distribution is also organized on a collective basis. Although communism in its strictest economic sense is being practiced here, no political doctrine is especially emphasized. Money is not used within the settlement, every member of the kvutza getting an equal share of the production for his or her labor in kind and services. The communistic life within the settlement, however, does not affect its business or other relations, as a single entity, with the outside world.

Dagania, the first kvutza of Palestine, was founded in 1909 in the Valley of the Jordan by seven men with but meager agricultural training, on land belonging to the Jewish National Fund. These seven men were the originators of the collective farm settlements of Palestine. It should be said from the outset, however, that one of the principles of the Zionist Organization, that of giving full autonomy to settlers on its land to choose their own social system, has been faithfully guaranteed throughout the colonization activities of that organization and has been a contributing factor in the development of the agricultural commune system of Palestine.

Several reasons have led the Zionist leaders to look favorably on the kvutza. It was considered a good school in which to train agriculturists; it solved the thorny problem of cheap non-Jewish labor by eliminating altogether the system of hired labor; and it was superior to individual settlers in regions where a great deal of preliminary strenuous work was needed for soil improvement, such as drainage, the reclamation of swamps, etc.

Another reason for the success of the agricultural commune, besides the financial help accorded the kvutzot by the Zionist Organization,

has been the fine type of human material of which it is made. The leaders of the movement have found through experience that the degree to which the members of a kvutza are suited to each other and to their collective and idealistic life is often the deciding factor in the success of the commune. At present the typical kvutza is composed of between 75 and 125 members of both sexes usually representing the result of a mutual selection taking place several years before the commune was actually founded.3/ In other cases, the nucleus starting a kvutza is formed on a preparatory farm even before migrating to Palestine or is composed of a group of workers who have become friends during their employment on some construction project in Palestine.

When a group of young moneyless workers decide to form a kvutza, they first declare their intention to the agricultural section of the General Labor Federation(Histadruth), which is the intermediary between the prospective kvutza members and the Colonization Department of the Jewish Agency. It usually takes 2 or 3 years from the time of filing application until the kvutza actually begins settling on the land. The delay is generally attributed either to a shortage of funds in the colonizing agency or to precedence given to other groups who have previously filed application. This delay does not mean a complete loss of time, however, since it gives the prospective members of the kvutza another opportunity to test their mental adaptation to collective life as well as their temperamental suitability to each other. If, after the establishment of a kvutza, there is an increase in production as a result of soil improvement, irrigation, and intensive farming, new members are taken in and are treated on an equal basis by the old ones. The established kvutza however, is very strict in admitting new members, and the selection is usually made on a probationary basis, during which time the character of the new members is tested.

The adoption of the type of management best suited for the successful development of the kvutza, together with the distribution of work among the members, were two of the most important problems facing the early kvutzot. In the early stages of the movement, a rotating system of management was used, whereby each member was given an equal opportunity for leadership. In that early period, a Management Committee was elected every month in every kvutza and no reelection for a second term was allowed until all members had served on the committee. At present, however, the Management Committee of the Kvutza is usually composed of five or seven men elected for 1 year, although any decision of utmost importance must be passed by general membership meetings held at regular intervals during the year.

3/ Although the average membership of a kvutza is between 75 and 125, there are several large kvutzot with over 200 members each. Ain Harod, in the Valley of Jezreel, is the largest kvutza of Palestine. In the summer of 1936 it had 685 inhabitants, of whom 400 were active adult members and the rest children and aged parents.

In the case of the distribution of work, it is important to note that in the early kvutza the work was assigned to members in rotation, thus giving everyone an opportunity to share equally during the year in the various branches of agriculture. This system of work distribution resulted from the fact that during that early period the kvutzot were considered as agricultural training schools where members had to learn all types of farming. At present, however, since most kvutzot consider themselves definitely established enterprises which must pay their own way and where the work must therefore be very efficient, the policy is to assign experienced men to steady jobs.

The women of the kvutzot enjoy absolute equality with the men. They participate on an equal basis with men in all branches of agricultural activity and have an equal voice in all decisions regarding the administration of the kvutza.

Although the typical kvutza of Palestine is an autonomous entity in its internal administration and agricultural production, it pays membership dues to the General Labor Federation and contributes its share to the Workers' Health Organization. It also relies on cooperative marketing organizations for the sale of its surplus products as well as for the purchase of necessary supplies. Once in a while it grants a younger kvutza a loan, without interest, consisting generally of agricultural products either for consumption or for seed, such as grain and saplings.

Outside of these contributions and mutual help, the kvutzot are, as a rule, closed collective enterprises depending only on the work of their members and using their eventual surplus production to better living conditions in, and to improve the agricultural development of, the farms. In a few cases, where the farm operations of the kvutzot do not require the use of the labor of their members all year round, the latter are permitted to work on neighboring farms for wages. Such wages, however, are turned over to the kvutzot and represent another source of their income.

Although every kvutza of Palestine has had to be subsidized by the Zionist Organization for a long time after its establishment, the great majority of the kvutzot are now conducted on a self-sustaining basis and most of them have shown substantial operating profits since 1935. Moreover, they are responsible for remarkable pioneering work in dairying, poultry husbandry, and vegetable gardening.

At the end of 1935, 26 years after the founding of the first kvutza of Degania in the Jordan Valley, there existed in Palestine 26 kvutzot cultivating a total area in excess of 25,000 acres, of which over 3,000 acres were under irrigation.

The Kibbutz: Besides the autonomous and settled kvutzot, other forms of collective agricultural undertakings have been developed by the Jewish settlers of Palestine. The "kibbutz" (plural kibbutzim), which is an

outgrowth of the kvutza system, is a cooperative settlement organization, consisting partly of urban wage earners and partly of agricultural workers working toward the establishment of an agricultural settlement. This type of cooperative undertaking was first developed in 1923, when unemployment in the towns was very severe and a back-to-the-soil movement was taking place.

Whereas in its internal organization the kibbutz is an exact replica of the agricultural commune or kvutza, it is partly dependent on outside employment of its members in the surrounding privately-owned colonies. There is no fixed relation between the number of kibbutz members employed on outside work and those engaged in the internal work of the group, this relation varying in the several settlements and depending upon individual expediency. Since the principal difference between a kibbutz and a kvutza is the employment of members on outside work for the preparation of the agricultural settlement, it follows that a successful kibbutz usually becomes a kvutza.

Since 1931 the kibbutz movement of Palestine has greatly expanded. The active adult membership of the kibbutzim, which in May 1931 was only 1,950, had increased to 4,380 in 1935 and to more than 7,000 in March 1936. At the beginning of 1936, 50 out of the 58 kibbutzim of Palestine were grouped into 3 national organizations as follows: Hakibbutz Hameuchad, composed of 19 kibbutzim; Hashomer Hatzair, also composed of 19 groups; and Hever Hakvutzot, composed of 12 groups.

The Irgun and Moshav Ovdim: Those urban workers of Palestine who are able to save money for their future settlement on the land and who are unwilling to submit to the communistic life of the kvutza and the kibbutz have developed their own form of cooperative agricultural settlement. Such an organization, called "irgun", improves and starts cultivating individual plots for each of its members on land rented from the Jewish National Fund. The principal feature that the irgun has in common with the kibbutz is that most of its members are urban workers who save money and delegate a group of comrades to be the vanguard of the future settlement. When the land is improved, however, and ready for profitable cultivation, the irgun members coming from the city do not organize a kvutza, as the kibbutz members usually do, but establish themselves on individual small farms. The only difference between irgun farmers and settlers on privately-owned property is that the land on which the former are established still belongs to the Jewish National Fund and they are not allowed to hire outside labor.

A group of such small semi-collective farmers is commonly known as a "moshav ovdim" (workers' settlement). Thus a successful irgun ultimately becomes part of a moshav ovdim just as a kibbutz frequently leads to the formation of a kvutza. It follows, therefore, that the kibbutz and the irgun may be considered as the preliminary stages of the two outstanding types of workers' agricultural colonies in Palestine, the kvutza and the moshav ovdim.

Some results of Jewish agricultural colonization

It may be said that in the last 15 years the agricultural colonization of Palestine by the Jews has transformed the old-fashioned agrarian system of that country through land reclamation and soil improvement, through improvement in farming practices, and through the creation of a strong cooperative movement and the development of the agricultural commune.

Land reclamation and soil improvement: Until 1922, most of the agricultural land in the plains of Palestine was covered with swamps, and in practically every settlement and village along the Maritime Plain malaria was highly prevalent. All along the valley of Jezreel, from Haifa to the Jordan River, there was a continuous chain of swamps and malaria-infested villages. In the eastern part of the country, the Valley of the Jordan, from the headwaters of the river to Beisan, was practically uninhabited. (See Figure 1 facing page 130.) Blood tests taken at that time showed that in some sections as high as 40 percent of the Jewish population in the agricultural settlements and as high as 95 percent of the rural Arab population living in the valleys were infected with malaria.

In 1922 the Malaria Research Unit was founded by American Jews and attached to the Palestine Department of Health to assist in the investigation and control work of the Palestine Government and the Jewish colonization agencies in their fight against malaria. Not only were the best soils of Palestine covered with swamps and thus lost to agriculture, but the presence of these swamps made the neighboring lands unfit for habitation.

The principal land reclamation and drainage work was done by the Jewish National Fund and the Palestine Jewish Colonization Association. The former is responsible for reclamation work in a great portion of the Valley of Jezreel as well as in several districts of the Maritime Plain and the Jordan Valley. This extensive area, which was formerly either covered with swamps or sparsely inhabited by a highly infected population, has been converted into fertile land now covered by many new healthy agricultural settlements. The Palestine Jewish Colonization Association has spent considerable funds in its reclamation of the Kabbara swamps in the Maritime Plain. Other reclamation work was conducted by the Palestine Salt Company, the Zion Commonwealth, the Palestine Electric Company, and the Jewish settlements themselves, of which Hedera is an outstanding example.

Complete statistics showing the result of the reclamation work done by the Jews of Palestine are not available at present. The extent and importance of this work may be understood when it is realized that the once swamp-filled Maritime Plain is now completely reclaimed, with the exception of a few marshy areas belonging to the Palestine Government;

that what used to be the malaria-infested Valley of Jezreel has become the most fertile area of Palestine; that in the eastern part of the country, with the exception of the Huleh marshes, which were given in concession 10 years ago by the Government of Palestine to a group of Syrians and which are still undrained, the Jordan Valley has been completely reclaimed for cultivation.

The possibilities of agricultural improvement and development in Palestine as a result of the very recent discoveries of underground water were discussed earlier. Suffice it to say here that water is so important to the all-round development of Palestine that further improvement in the economic, social, and agricultural life of the country is dependent on the discovery and development of additional sources of water for irrigation. Intensive and mixed farming, though introduced into Palestine before the World War, has experienced its greatest development only in recent years, following the discovery of more underground water.

Improvement in farming practices: One of the principal reasons why the early Jewish colonists of Palestine chose to grow oranges and wheat almost to the exclusion of other crops was the fact that these two products were the only two major forms of agriculture known to the Arabs. The new settlers, who knew little about agriculture and much less about Palestinian agriculture, followed the example of the Arabs. The early Jewish settlers, however, introduced the wine grape and the eucalyptus tree which had not been cultivated by the Arabs. Some of the best varieties of French wine grapes were introduced into Palestine by Baron Edmond de Rothschild, who built the famous wine cellars of Rishon-le-Zion, which are among the largest in the world. The Rothschild administration is also credited with the importation of the Australian eucalyptus tree. Large groves of these trees were planted near the early colonies to dry out the neighboring swamps.

Some almond orchards were also planted in the early Jewish colonies. Thus, the crops of the early settlers were oranges, wine grapes and wine, and almonds in the Rothschild colonies of the Maritime Plain, and grain, especially wheat, in the Jewish Colonization Association's settlements of Lower Galilee. In general, early Jewish agricultural settlers had to buy their vegegetables from Arab farmers.

The first experiments in mixed farming in Palestine were made by the Zionist Organization in the second period of the Jewish agricultural colonization (1908-1920). Several reasons led this organization to adopt the system of mixed farming as its colonization policy. First of all, it did not have the funds required to plant and bring orange groves to bearing. Furthermore, the production of both oranges and wheat requires only seasonal labor, whereas the Zionist Organization was interested in placing the greatest possible number of workers on the land and wanted to avoid the dangers connected with a single crop system.

Improvement of the land, as well as of the quality and quantity of agricultural produce, has followed the introduction of the system of mixed farming in Palestine. At present, all farming on Jewish-owned land is of the intensive type, and a great deal of it is diversified. This diversification has consisted mainly in the introduction of new fruits, the growing of truck crops on a commercial scale, and the development of new and more productive breeds of cattle and poultry.

Aside from the production of citrus fruits, which is still the principal occupation of Jewish agriculturists in Palestine and which provides a large portion of their income, the production of many other fruits has been encouraged and developed. Since 1917 the production of wine grapes has been on the decline, caused first by the loss of the once very profitable Russian market and the decrease in American wine purchases and, in recent years, by the low prices following the overproduction of wine in France, Italy, and Spain. Some Jewish agriculturists uprooted their vineyards and replaced them with citrus groves. At present, the area under vineyards in the Jewish colonies is estimated at only about 3,400 acres as compared with about 7,000 acres in 1900. Since the repeal of prohibition in the United States, however, there has been a tendency again to increase the area of wine grapes.

While some wine-grape growers of the Maritime Plain were replacing their vineyards with citrus fruits, other Jewish farmers, especially in the Valley of Jezreel, were growing table grapes under irrigation as a direct result of the increased demand for this product in Palestine. Thus at present the area under table grapes is almost four times as large as that under wine grapes, having increased from 5,000 acres in 1923 to 13,000 acres in 1936.

Almond groves in many Jewish colonies of the Maritime Plain also have been uprooted to make way for the more profitable orange. Figs and olives have never taken an important place in Jewish agriculture. In recent years, however, there has been a tendency to introduce new fruits and nuts, such as bananas, avocados, and pecans. Although unknown in Palestine before the World War, banana plantations now cover several thousand acres in the Jewish colonies of the Jordan Valley. Most of this fruit is consumed locally, where it is much appreciated and where the demand is continually increasing. Jewish agriculturists have become interested in the production of pecans since it was discovered that the climate and soils of Palestine are well adapted for the production of this nut. While the production of the pecan is still in its experimental stage, those responsible for its importation into Palestine believe that it may develop into a profitable branch of the country's agriculture. Among the deciduous fruits that have recently begun to be produced on a commercial scale are apples and pears in northern Palestine, and plums, peaches, and apricots in the central regions.

Until a few years ago, the production of vegetables in the Jewish agricultural settlements was not considered of great importance and little attention was given to it. As a result of the introduction of new kinds of vegetables during the past 10 years, vegetable growing in the Jewish agricultural settlements is now done under irrigation, with very modern methods of cultivation and fertilization being practiced. At present, most of the vegetables grown in the United States are also produced in Palestine for domestic consumption. Recent additions include asparagus, celery, an improved type of Jerusalem artichoke imported from the United States, and high-quality mushrooms brought in from England. Some steps have already been taken for the development of a vegetable export industry. Such off-season vegetables are exported to the European markets in the winter months and bring high returns to growers.

The dairy and poultry industries of the Jewish agricultural colonies of Palestine, though of very recent development, are already famed throughout the Near East. The improvement of the dairy stock is the result of years of crossbreeding of the native cow with an imported Netherlands strain, supplemented by constant and careful selection and by rational methods of feeding. Jewish agricultural settlements have had to turn to the production, under irrigation, of green fodder, such as clover, lucerne, vetches, and corn, in order to develop their dairy industry. The Jewish Cattle Breeders' Association, founded several years ago, maintains a herd book and records milk and butterfat yields, under Government supervision, of herds of a large number of Jewish colonies with the view to selecting the best cows for future crossing. The early experiments were directed toward increasing the yield of milk per cow, and no attention was paid to fat content. In recent years, however, successful attempts have been made to correct this defect by introducing pedigreed stock with high butterfat-producing ability so that the butterfat content of milk from some herds now reaches 4 percent.

As a result of the increase in immigration and the expansion of urban and rural centers since 1931, many modern dairies have been built in dairy farming districts, such as the Valley of Jezreel, the Jordan Valley, and the Jewish agricultural settlement of Rehobot, as well as in the cities of Jerusalem, Tel-Aviv, and Haifa.

The development of the poultry industry, like that of the dairy industry, is very recent. In fact, as late as 1926 the Agricultural Department of the Zionist Organization proposed the elimination from its budget of funds intended for the building of chicken coops by saying that "poultry raising has no future." It is true that at that time poultry raising in Palestine was very primitive, greatly hampered by disease, and a serious source of financial loss. Since 1927, however, great efforts have been made to develop the poultry industry on a sound basis. The success of this movement has made the production of poultry and poultry products a very important branch of present-day Jewish agriculture in Palestine.

When the Jewish agriculturists started to experiment with poultry raising, the native hen in their possession laid an average of about 70 eggs a year. As a result of the crossing of this native fowl with the imported Leghorn, the average egg production per hen has increased during the 8 years to two or three times that figure. The production of poultry products is now undertaken by most modern and efficient methods. Hens are housed in roomy and comfortable coops, the diet is scientifically planned, and the health of the chickens is well protected. As a result of the adoption of these modern methods, poultry raising in the Jewish agricultural settlements of Palestine has rapidly approached American standards.

The qualitative agricultural achievements of the Jewish colonists of Palestine are beginning to have a beneficial influence on the agriculture of their Arab neighbors. Arab growers are slowly developing a system of mixed farming and are beginning to grow vegetables for the Palestinian market, although the improvement of their dairying and poultry raising is still in its infancy. The methods used in Jewish agricultural settlements have in some cases also been cited as fitting examples for use in nearby countries where many antiquated methods still exist. The Government of Palestine itself uses many of the agricultural methods developed by the Jewish colonists as examples for the improvement of Arab agriculture, while its experimental stations distribute to the Arab farmers large quantities of seeds and saplings acquired in the Jewish settlements.

Although the Jews of Palestine possess only 15 percent of the total area actually under cultivation, the value of their crops represents about 23 percent of the value of the country's agricultural production. This is due mainly to the intensive character of their agriculture and to the emphasis placed on crops of high value per acre. Thus, they produce about 55 percent of the country's citrus crops, 30 percent of the poultry products, and 30 percent of the dairy products. On the other hand, they produce only about 5 percent of the cereal crops of Palestine.

The cooperative movement

Palestine has the most highly developed cooperative movement in the Middle and Near East. This movement is one of the most remarkable activities of Jewish colonization in its endeavor to rebuild the country. The cooperative movement is broad in its application, covering production, marketing, and credit in both agriculture and industry. Not only did the cooperative movement of Palestine develop without any Government assistance, as in many other countries, but during the Turkish regime of pre-war days, it had no legal status. In recent years, however, with the exception of a few Arab agricultural credit associations founded with the help of the Government of Palestine, the cooperative

movement of the country has been promoted and encouraged almost entirely by the (Jewish) General Labor Federation, itself organized on a cooperative basis.

On December 31, 1935, the total number of registered cooperative associations in Palestine was 769, of which 695 or over 90 percent were Jewish and 74 were Arab. Of the latter, which are mostly credit cooperative associations, 30 were founded in 1935. The total number of members of all the cooperative associations were estimated at between 90,000 and 100,000, of whom only 2,400 were Arabs. In other words, at the end of 1935 one out of every four Jews in Palestine was a member of a cooperative association.

Of the total number of 695 Jewish cooperative associations in existence in Palestine at the end of 1935, only 276 or about 40 percent were agricultural or dealt with some branch of agriculture. This figure also included the agricultural communes and other types of agricultural cooperative settlements, which were discussed in the foregoing pages. The remaining 419 associations consisted of consumers', producers', and transportation cooperatives, etc. Aside from the agricultural cooperative settlements, the principal agricultural cooperative organizations are marketing, water-supplying, credit, livestock insurance, and agricultural consumers' associations.

The agricultural marketing cooperatives of Palestine may be divided into three distinct groups: (1) wine and wine grapes; (2) citrus fruits; and (3) dairy and poultry products, fruits, and vegetables.

The oldest agricultural marketing organization of Palestine is the Vigneronne (Society of the Wine Growers of the Cellars of Rishon-le-Zion and Zichron-Jacob, Ltd.) founded in 1896 for the marketing of wines produced by Jewish farmers. It has cellars with a capacity of over 2,113,000 gallons and annual sales of over $500,000. Almost every Jewish vintner delivers his grapes to this organization, which markets over 80 percent of all the wine, brandy, and liqueurs produced in Palestine.

More than 80 percent of the citrus fruit produced in Jewish-owned groves is marketed on a cooperative basis. In 1934-35, 10 citrus cooperative organizations and 2 general agricultural organizations marketed 40 percent of the total citrus crops, or over 81 percent of all citrus fruit produced in Jewish-owned groves. Pardess, the oldest and largest of these citrus organizations, was founded in 1900. During the 1934-35 season, it marketed 1,684,000 boxes of citrus fruit, or about 60 percent of the 2,979,000 boxes handled by all 12 organizations. Some of these organizations still allow their members to sell their fruit

on the tree, and most of them accept fruit of nonmembers on consignment. It is important to note that, while 80 percent of all citrus fruit grown by Jews is marketed on a cooperative basis, as late as the end of 1935 no steps had been taken among the Arabs to organize the citrus growers into cooperative marketing organizations.

Number of registered cooperative associations in Palestine, December 31, 1935

Type of Cooperative	Total registered cooperatives on December 31, 1935			Cooperatives registered during the year 1935		
	Total	Jewish	Arab	Total	Jewish	Arab
Cooperative loan and saving societies	171	110	61	43	14	29
General agricultural and marketing	61	60	1	14	14	0
Cooperative water supply	50	50	0	11	11	0
Kvutzot and Kibbutzim	84	84	0	20	20	0
Irgunim	37	37	0	5	5	0
Cooperative societies for suburban and urban development	91	91	0	26	26	0
Housing cooperatives (including building and loan associations and commercial centers)	64	64	0	18	18	0
Workers' productive, handicraft and service societies	86	86	0	29	29	0
Transportation (motor and other)	53	41	12	11	10	1
Distributive (consumers)	46	46	0	11	11	0
Miscellaneous (including 5 audit unions)	26	26	0	6	6	0
Total all types	769	695	74	194	164	30

The Central Bank of Cooperative Institutions in Palestine, Ltd., 13th Annual Report, London, 1935.

The principal agricultural marketing organization other than Vigneronne and Pardess is the Thnuva (Agricultural Cooperative Society of Producers of the Jewish Labor Settlements in Palestine, Ltd.). There is a Thnuva in each of the cities of Jerusalem, Tel-Aviv, and Haifa, and all three organizations market the agricultural produce, except grain, of Jewish farmers in about 100 agricultural settlements. During the season October 1934 through September 1935 the combined turnover of the three thnuvas amounted to £P. 410,000 (a little over $2,000,000) as compared with

£P. 290,000 (about $1,450,000) in 1933-34. Dairy products represent about 70 percent of this trade, the balance being composed of poultry products, fruits, and vegetables.

The water-supplying cooperative organizations are peculiar to Palestinian agriculture. The lack of water and irrigation facilities, as well as the high cost of machinery for the digging of wells, has compelled Jewish farmers to organize into irrigation and water-supplying cooperatives. This movement is very recent, however, having begun in the last decade. At the end of 1935 there were 50 such organizations in Palestine, some specializing in irrigation works only, others supplying water only for domestic use, and still others supplying water for both domestic and irrigation purposes. In many Jewish agricultural settlements, the entire water supply is owned and administered by the cooperatives. In others, small orange growers with adjoining groves form cooperatives for digging and maintaining common wells. The practice of selling water on credit is widely used, the cooperatives accepting their members' promissory notes and rediscounting them to obtain cash.

Out of a total of 110 Jewish cooperative loan and saving societies existing in Palestine at the end of 1935, only 45 were agricultural credit organizations, the rest being urban associations. It is interesting to note that these organizations have developed without any outside assistance.

Another form of agricultural cooperation in Palestine is the livestock insurance type. The oldest and most important of such cooperatives is the Hacklait, organized in 1919.

The consumers' cooperative movement of Palestine has developed very considerably in recent years. In 1931 there were only 11 consumers' cooperatives with 772 members, while at the end of 1935 there were 46 such associations with a membership of over 4,000. The movement is largely rural in character, as 37 of the 46 consumers' organizations are in villages and rural communities. These cooperative organizations, like the consumers' stores in Swiss villages, handle everything the farmers need, from groceries to agricultural implements and machinery. Many of the organizations sell on credit.

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The photographs in this article have been furnished by the Zionist Organization of America.

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ARGENTINE BEEF SUBSIDY - PARTIAL COMPENSATION FOR BRITISH TARIFF

. . . . By Paul O. Nyhus*

Since September 1934, the United Kingdom has been paying a subsidy to domestic beef-cattle producers. While beef was on the free list, the subsidy was a charge on the general revenues. The desire to make the beef-cattle subsidy at least partially self-supporting dominated the plan to place duties on imported non-Empire beef. No beef duties were possible prior to the expiration in November 1936 of the 1933 trade agreement with Argentina. The new Anglo-Argentine agreement, ratified December 16, 1936, provides for British duties on chilled and frozen beef and also for import quotas. The Argentine Government now finds it advisable to attempt to offset somewhat any lowering of export beef prices that may develop as a result of the new British duties. The fairly steady contraction of the British and other European markets for Argentine chilled or frozen beef has been one of the factors tending to increase the shipments of canned beef to the United States.

An Argentine Government decree, dated December 16, 1936, but not published until late in January 1937, states that, while it is not intended to support prices permanently, the Government feels compelled to soften the effect on cattle prices of the imposition by the United Kingdom of the import duty of three-fourths pence (1.5 cents) per pound on chilled beef from Argentina.

The decree authorizes the Minister of Finance to transfer from the exchange-profits fund 1.65 pesos for each pound sterling created by the sale of Argentine beef to the United Kingdom. A maximum of 15,100,000 pesos (about $5,000,000) annually may be deposited in the Central Bank to the credit of the National Meat Board for this purpose. It is pointed out that exchange profits were designed to provide assistance to producers under exceptional circumstances and that the present situation fully justifies the use of the profits fund.

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*American Agricultural Attaché, Buenos Aires, Argentina.

The National Meat Board is charged with distributing the subsidy to the exporters (packers) in proportion to their shipments of beef and beef products to the United Kingdom. Moreover, both the National Meat Board and the Ministry of Agriculture are authorized to study and investigate the benefits and operation of this plan in order that the subsidy may reach the cattle producers as contemplated by the decree. The Department of Agriculture is also authorized to report on the necessity of modifying the decree from time to time, particularly in the event that prices of cattle rise to such a level that there is no injury resulting from the import duty.

The President of the Republic and the Minister of Agriculture in radio broadcasts on December 30 made reference to some plan of assistance to cattle producers. The Minister of Agriculture at that time stated: "The Executive Power has just promulgated a decree whereby it assumes a part of the tax, and hopes that a policy of cooperation between the private packing companies and the Corporation of Argentine Meat Producers will partly relieve cattle raisers of this heavy burden. The packing companies also will absorb a good part of the tax and, in accordance with the Government's program, cattle raisers will bear only a reasonable part of the duty. The industry can sustain this duty at the present time."

While the Anglo-Argentine Trade Agreement was being negotiated, the prospective import tax was the occasion for considerable discussion as to its incidence on the packers, British consumers, and Argentine cattle producers. In the preamble to the decree, reference is made to the fact that by this means the Government expects to assume one-third of the burden of the import duty. The decree provides for an annual appropriation of the amount stated, but from various sources it is indicated that the plan is tentative and that modifications will be made as studies and investigations are completed as to the effect of the import duty on cattle prices in the Argentine.

The Government contends that the margins of packers and of distributors in England should permit them to absorb as much as one-third of the duty and it hopes that after a time the duty will be about equally absorbed by Argentine cattle producers, by packers and distributors, and by British consumers. Government officials in Argentina are hopeful also that improvements in business conditions in Great Britain will be reflected in higher prices for beef so that, in spite of the duty, cattle prices in the Argentine can be maintained at not less than present levels.

For some months prior to the announcement of the import duty, prices for "chiller" steers at Argentine packing plants were fairly steady at 27.5 to 28 centavos per kilogram live weight. In the week ended November 28, however, a sharp break occurred and prices declined to an average of 25 centavos in the week ended December 19. In recent weeks prices have ranged between 25 and 26 centavos (3.7 to 3.9 cents per pound United States currency). The full incidence of the British duty on domestic prices is

equivalent to about 6 centavos per kilogram live weight (0.9 cent per pound). The action of the Government in providing a subsidy of 1.65 pesos per pound sterling on beef shipments, was a considerable factor in preventing a sharper break in prices of chiller-grade steers, slaughtered primarily for export to the English market.

At the present time export bills are bought by the Exchange Control Board at 15 pesos to the British pound sterling, so that the payment of a subsidy of 1.65 pesos per pound sterling created by beef shipments to the United Kingdom represents a subsidy of 11 percent on these export bills. This alone would tend to support prices as much as 3 centavos on the basis of previous prices of 28 centavos per kilogram. The net effect of the subsidy on domestic prices of chiller steers is probably somewhat more than this amount since the export bills include local packing house costs, or f.o.b. values.

In the new Anglo-Argentine Agreement the quotas of Argentine chilled beef are also slightly reduced. The 1937 quota is 345,378 metric tons (about 761,400,000 pounds), described in the agreement as 1935 imports reduced by 138,700 hundredweight (15,534,000 pounds). Because of a supplementary quota in 1936, imports during that year amounted to about 361,000 metric tons (796,000,000 pounds), so that the 1937 quota represents a reduction from the 1936 imports of about 5 percent. The 1938 and 1939 quotas are each to be no less than the imports of the preceding year reduced by 138,700 hundredweight. This is equivalent to successive annual reductions of slightly less than 2 percent. The aggregate reduction of the Argentine quota, therefore, during the life of the agreement, 1937 to 1939 inclusive, is not large. The industry, however, faces the problem of finding outlets for the current volume of production, with many other markets also restricted. A reduction in prices so as to dispose of current supplies does not solve the problem of export sales since in the case of fresh chilled or frozen beef it is difficult to name important markets where quota regulations do not apply.

In a portion of the livestock feeding area of Argentina there is competition between grain production and grazing of cattle; and, because of the prevailing high prices for grains, it is possible that there may be some shifting from cattle to wheat, corn, and linseed, but only slight changes in this respect are probable over a short period. Although the per-capita consumption of meat in the Argentine at the present time is extremely high, the Government hopes further to expand the domestic market. Through trade agreements an effort is being made to enlarge the foreign markets for beef and meat products.

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BRAZILIAN STATE ADOPTS SWEEPING COTTON REGULATIONS

The legislature of the state of Rio Grande de Norte in northeastern Brazil adopted a law on December 9 which, if strictly enforced, will seriously handicap the operations of foreign concerns engaged in the ginning, baling, and exporting of cotton, according to a report from American Consul George J. Haering in Pernambuco. The law penalizes the large centralized processing establishments of the type owned and operated by foreign companies and favors the numerous and scattered small plants. There are indications that the legislatures of other states of northeastern Brazil may adopt similar legislation during the current year.

The law provides that establishments for the ginning, baling, and exporting of cotton may function in the state only upon fulfilling certain conditions. They must produce cotton on an area of land equal to one hectare (2.471 acres) for each saw of each gin they operate; on an area equal to 100 hectares for each baling press of small capacity, and on an area equal to 300 hectares for each baling press of large capacity.

It also provides that each cotton processing establishment must maintain a primary school for operatives or tenants and their children in every locality where ginning machinery with more than 120 saws is installed. Moreover, they must give free medical assistance to operatives for injury or sickness contracted as a result of employment in the plants.

Owners of cotton processing and handling establishments must build separate cotton warehouses for individual types and kinds of cotton handled and must distribute free to farmers through the medium of the Cotton Textile Service 1 ton of selected seed, or its equivalent in cash, whenever a gin has between 80 and 120 saws; 3 tons when it has between 120 and 140 saws, and 5 tons when it has more than 140 saws. The law also provides for the prosecution of establishments which in any manner contribute to the devaluation of cotton either through mixing types or by using ginning machinery which damages the quality of the fiber. Exportation of cotton seed and cottonseed cake and meal is permissible only when not prejudicial to the livestock industry of the state.

It is also illegal for any one company, except a producer cooperative institution, to own or control more than 15 percent of the

number of saws and rolls of cotton ginning machines, or more than 15 percent of the number of presses for baling cotton. Foreigners may own or manage only up to 40 percent of the total number of saws and export presses existing in the state. An official cotton classification certificate is to be made obligatory for liquidating purchase and sale transactions.

Finally the law provides for collecting export taxes on cotton in advance of the shipments and for increasing such taxes by 20 percent. Unless the cotton has been exported by September 30 of each year an additional tax may be imposed when actually exported.

In commenting on the new law the American Consul points out that it penalizes the large centralized establishments owned by foreigners by reason of the following facts: (1) the acreage to be cultivated under the law is higher for the larger presses than for the smaller ones; (2) the quantity of seed to be distributed without charge rises out of proportion to the size of the gins; (3) the volume of cotton being exported by foreign firms would necessitate the construction of more than 100 warehouses by each firm in order to meet the requirement that separate warehouses be provided for individual types and kinds of cotton handled; and (4) the potentialities for state interference in their business are excessive.

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ARGENTINA MAKES PLANS FOR NEW AGRICULTURAL CENSUS

The first general census of Argentine agriculture and livestock since 1914 will be taken as of July 1 this year by the Ministry of Agriculture in accordance with a law recently passed by the Argentine Congress. It is expected that the preliminary returns of the new census will become available for publication within 8 months after the completion of the work of enumeration.

Prior to 1914, three general censuses had been taken, namely, in 1888, 1895, and 1908. A partial livestock census was taken in 1922. All of these censuses, however, have been regarded as more or less incomplete. The report of the 1914 census, for example, does not show the yield, production, or value of the various agricultural crops. A census taken in 1930 was limited to livestock. The lack of uniformity in certain kinds of data make it difficult if not impossible to compare the data of one period with those of another.

The 1937 census, in addition to the usual information concerning the area, production, yield, and distribution of the various crops, and the number and distribution of livestock, provides for the collection of the more fundamental facts on the economic and social aspects of

Argentine agriculture. Among the statistics called for will be those relating to the size and ownership of farms, land tenure, literacy, nationality of the farm population, wages, farm income, standard of living, inventories and value of farm buildings and machinery, cost of production factors, and much other useful and valuable data, some of which has not been collected since 1914, or only in partial and incomplete form. The census will therefore provide a new statistical basis for an appraisal of the present position and the progress and development of agriculture in Argentina since the World War. Argentina is one of the leading agricultural export countries of the world, ranking first as an exporter of chilled beef, linseed, and corn; and second in wheat, wool, lamb, and mutton. Rapid progress is being made in the development of fruit growing and in the production of cotton.

The law authorizing the taking of the census provides that it shall become the basis for the annual surveys or estimates made by the Bureau of Rural Economy in much the same way in which the census in the United States is used as a basis for the annual estimates made by the Bureau of Agricultural Economics.

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